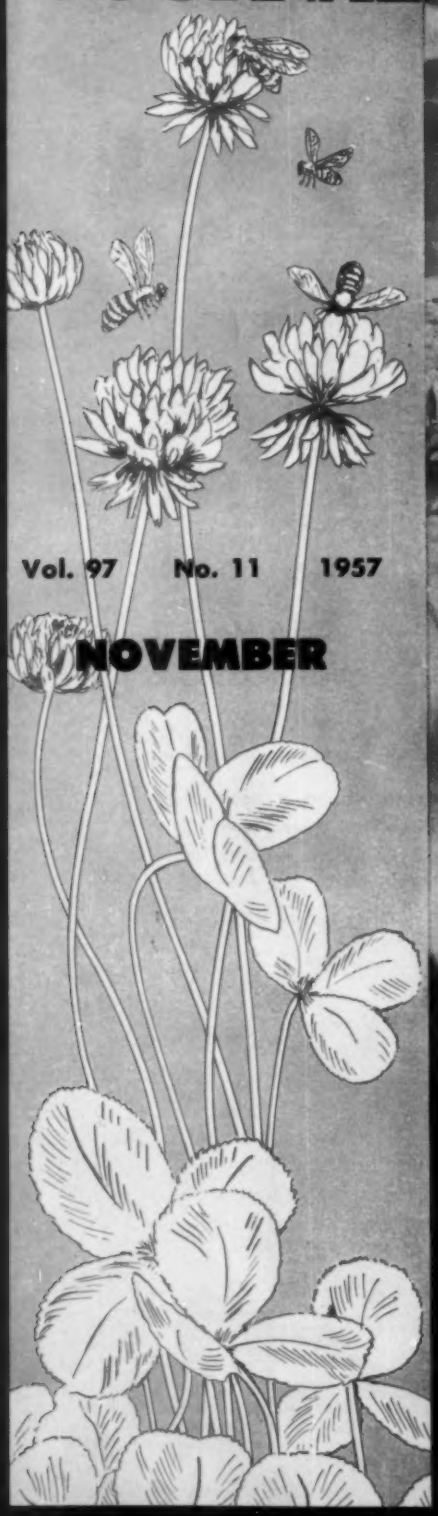
American BEE JOURNAL



Vol. 97 No. 11 1957

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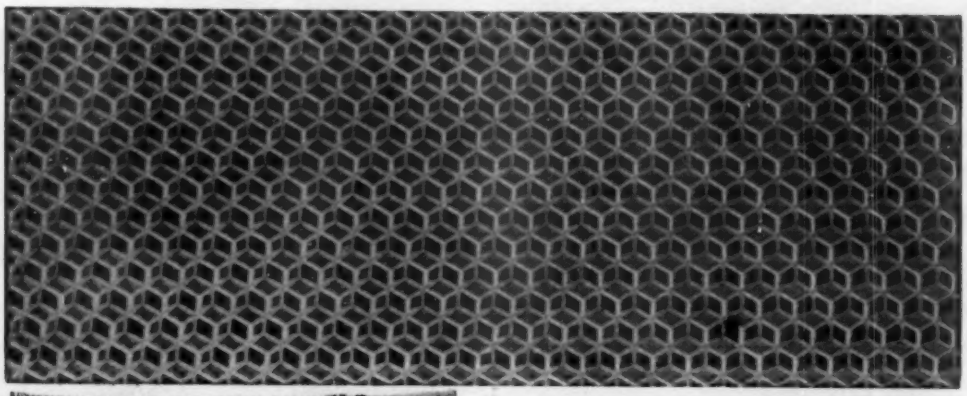

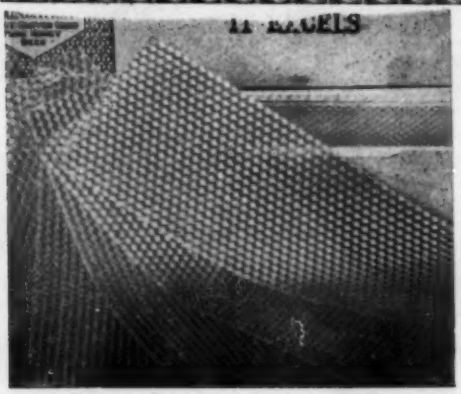

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Hamilton, Illinois

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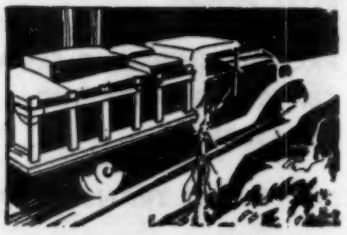

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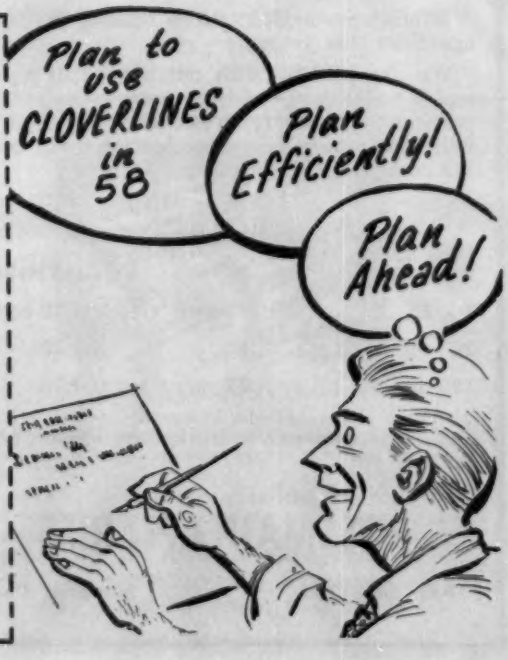


The Commercial Beekeeper

Main thing here is that other commercial groups are willing to help publicize honey at no cost to our beekeeping industry. We have the American Honey Institute which we support rather meagerly when we compare its funds with other industry groups. Yet the Institute does a million dollar business for us. Take this Fleischmann poster. It is altogether 15 by 22 inches, in beautiful colors. "A wonderful way to start the day. Hot Cross Buns, delicious with honey; delightful with coffee, especially when you serve them hot. A good breakfast means a good morning." — Thanks so much to the Institute and to Fleischmann. Have some buns and honey - TOMORROW.

The Management of CAUCASIANS

by J. E. HASTINGS

Caucasians have long been a favorite race, in place with Italians, but pure Caucasians have been hard to obtain. More recently breeders have worked hard to make good Caucasians available. How do they do in comparison with Italians? J. E. Hastings tries to answer that question.

Having been a strong advocate and breeder of pure Mountain Grey Caucasians for several years I am often asked, "Why do you prefer Mountain Caucasians," also, "What is your system of management throughout the season?"

The purpose of the following article is an attempt to answer these questions.

Before becoming too deeply involved in the above, possibly a word should be said on "Why did I choose Mountain Caucasians over the other races?"

For several years I kept the three main races, namely, Italian, Carniolans, and Mountain Caucasians. All had their advantages and disadvantages. I was attempting to find the race of bees most suited to our severe northern conditions, a race hardy enough to survive our long, cold winters and produce a profitable honey crop with the least summer management possible.

To make a long story short, after several years of trial the Mountain Caucasian gave not only the best year-round results but gave the most pleasure in handling due to their gentle nature during manipulation.

By Mountain Caucasians I mean colonies headed by queens producing all grey bees without a trace of yellow, not the hodgepodge mixture of color commonly found in bees sold as Caucasians today. These bees are nothing but a race hybrid and should be considered as such. Just what may we expect from these race hybrids? Too often a nervous vicious colony inclined to swarm with a great variation in production. It is these race hybrids in my opinion that are responsible for much of the discredit blamed on the gentle desirable Caucasian race. Most beekeepers have at one time or another had "Italian" colonies of a similar mixture. I'm sure they neither found them satisfactory nor a fair example of the Italian race either in temperament, production or swarm tendency.

The first cross between the two above races will be found satisfactory. Further use as a breeding stock is only inviting disappointment.

Hardiness: The Mountain Grey is tops in this department. They can definitely fly and work at lower temperatures than their lighter cousins. I have observed these bees carrying water in early spring when the temperature was only a few degrees above freezing. This is a decided advantage where early brood rearing is a "must." They are the only bees able to land on snow, rest for a moment and then resume flight. I've often wondered if the dark color of their bodies did not absorb more of the sun's heat, thus the difference.

The Mountain Grey will collect honey and pollen at lower temperatures also. Here in the North, extremes in temperatures can be expected. On those cool days, Caucasians will work quite readily while their fair cousins must remain indoors. Also in early morning and late evening the same difference may be observed. While on the subject of extreme temperatures, there are those claiming the Caucasians will not forage to the same extent as the Italians during hot weather. This I have found untrue. My colonies are left on their winter stands. This not only places them in full sunlight but a sheltered location as well, a truly hot location. On several observations I found them working with as much enthusiasm as their Italian cousins under similar conditions.

Build up: Again we find the Mountain Grey occupying a top spot. The only race possible exceeding them in this department is the Carniolan, but their tendency to use those extra bees for swarm purposes later in the season outweighs the earlier advantage.

Providing your Mountain Greys have sufficient stores of pollen and honey they will make rapid build-up. A good queen of this race will stretch her nurse bees to the limit during spring months, often laying eggs beyond their coverage. Remember it is this early build-up which results in a populous colony at the beginning of the honeyflow without which we cannot expect a maximum crop.

Swarming: This is one of the most important phases of successful beekeeping. A strong colony at the beginning of the honeyflow can either be an asset or a headache. If inclined to swarm, a full crop cannot be expected. And besides there is the extra labor of checking and removing cells. If on the other hand,

the strength of this colony is directed toward nectar gathering, a bumper yield may be anticipated, providing conditions are favorable.

The Mountain Grey, in a pure form in my opinion, is a very slow swarming race. I have found colonies badly crowded for storage, their queen driven to only portion of two or three frames standing in a hot location without any sign of swarm cells. During supersedure they may throw a scare into a beekeeper, unfamiliar with them, by the number of cells produced. Many of these will have the appearance of swarm cells being placed along the bottom edge of the brood frames. I've picked up as high as thirty dead virgins in front of a colony after supersedure.

It is now several years since I have had a colony attempt to swarm. This has eliminated the necessity of inspection of the brood nest from build-up until after the major honeyflow. I always try to check colonies at the time. In some cases an old queen of three or four years may be present in a failing condition. As all my queens are painted a supersedure is easily spotted, then the young queen must be marked providing she has proved herself purely mated. Any experienced beekeeper readily recognizes a colony that has swarmed by its lack of bees and empty honey supers.

Production: Having a race of bees, rating high in the previous departments, we are well on our way toward maximum production, providing of course we have proper pasture. I find their production equal to the best. Mountain Greys fill their supers very well, use little burr comb and take readily to foundation providing it is given during a good flow. They are well known for their beautiful white cappings and are ideal for comb honey production, due to this trait, and to their slow swarming instinct which allows crowding. Another advantage is their tendency of restricting their queen to the lower brood chamber after the commencement of the main flow. This eliminates the use of queen excluders and means an extra super of honey at the conclusion of the season. Take two colonies side by side, one Italian and one Caucasian five stories high both completed. The Caucasian will be found with four supers of honey, the Italian three as their second story as a rule has little if any stores being similar in this respect to the bottom brood chamber.

Preparation for Winter: The tendency of the Mountain Caucasians to fill their second brood chamber with honey is a decided advantage and time saver in the preparation for winter. This second is of course dark comb and will be found to contain some pollen so necessary for early spring brood rearing. In a severe climate, such as ours, a well filled food chamber is a must for winter. I find about ninety per cent of my colonies have sufficient stores in the second, an odd one may have two or three central frames partially filled and these only need be replaced.

Some beekeepers claim the Caucasians excessive in their use of propolis. True. Some strains, and mostly among the hybrids, overdo an otherwise good point! Should cracks or small holes develop in your supers your Caucasians may be relied upon to seal these very effectively.

Temperament: I feel sure no dissenting vote will be found when I say the Mountain Grey, if pure or as a first cross, has the gentlest nature of our present races. This has always been one of the strongest arguments in their favor and rightly so. Manipulation is not only a pleasure but is considerably speeded up by this trait. In my case, where queen rearing is carried on, this is a wonderful boom. I can graft, work with cell builders, do all my work with mating nucs without a smoker or veil. It means I can check colonies, to the bottom if conditions are at all favorable, with very little danger of being stung anymore than other beekeepers. I consider their gentle nature the finest trait of all.

Seasonal Management: Like most races spring management consists mainly of having sufficient stores of honey and pollen plus enough space to allow expansion of the brood nest. If your colony occupies seven or eight frames of the first brood chamber add the second. As soon as the second is occupied in a similar fashion add a third. Check frequently to assure no overcrowding as thousands of young bees should be emerging daily, a point to remember when checking the strength of a Mountain Grey colony. We are liable to underestimate their strength if we are unfamiliar with them due to their gentle nature. Pure Mountain Greys remain quietly on the frames during handling and do not boil over nor rush to the top bars as readily as other races.

Just prior to the main flow supers for surplus honey must be supplied, as with other races, also additional supers as needed.

Due to their nonswarming trait I find inspection for cells unnecessary. This eliminates a lot of hard labor leaving our time free for more profitable pursuits. Also we are not disturbing our bees in their nectar gathering activities. Incidentally Caucasians will return to work faster than any other race after manipulation due to their gentle temperament.

Near the end of the main flow much can be done to avoid excessive use of propolis. Reduce entrances to off season widths, replace supers if staggered for ventilation and close any other entrances. These are also precautions against robbing, a vice the Mountain Grey does not take to as readily as other races.

Winter preparation is the same as for all races, plenty of young bees, a productive queen, abundance of honey and pollen.

The above program of management is based on our northern conditions and will possibly need alteration to meet local conditions.

In conclusion, I feel beekeepers, whether hobbyists or commercial honey producers, can find no better race of bees to occupy their equipment for either financial returns or the pleasure of handling.

Birch Hills, Sask.

British Columbia "Bee Wise"

The official apiary department of B. C. announces that ⅔ of the bees in that province are overwintered. Foremost factor in overwintering is disease control. Replacement of failing queens and proper stores are also large factors as is proper protection.

Uncapping, caring for cappings, straining and packing the crop are dealt with in this 12 page folder, as well as many items of "news" pertaining to beekeeping in the Province.

Florida Notes

The Florida Plant Board Report for 1956 includes Chief Inspector Foster's report on the bees inspected from July '55 to July '56, some 176,000 colonies with an infection rate of less than 1% of American foulbrood all promptly burned.

Foster's 1956-57 report has just been received showing the inspection of 162,885 colonies with an equally low rate of infection of less than one percent. The cost per colony for inspection was 40.5c. In another column we announce the retirement of Mr. Foster from the inspection service.

Prevention and Control of European Foulbrood In Package Bee Colonies In Western Canada

P. PANKIW, Apiculturist

Symptoms of European Foulbrood

European foulbrood (EFB) is a bacterial disease of honey bee larvae. Larvae three to six days old are affected and as a rule most of the larvae die before the cells are capped. The dead larvae can assume any position in the cell in contrast to AFB and sacbrood. EFB affected larvae turn from a glistening white to a pale yellow and later to coffee brown. Normally EFB does not exhibit ropiness and the bees do not have too much difficulty in cleaning out the disease, except in severe cases.

When a beekeeper is in doubt about the disease, it is advisable to send a sample to the Provincial Apiarist for identification.

Effect on Colonies

A very important characteristic of EFB is its rapid spread within an affected colony and to adjacent colonies by drifting bees. This is indicated by diseased larval counts of a colony which had 10 infected cells one day and three days later had over 400 infected cells. The effect on colonies is the loss of larvae, resulting in a reduction or slowing down of the normal increase of colony populations and subsequent reduction in honey production. Most colonies, unless they are seriously weakened, tend to clear up the disease during the main honeyflow. A beekeeper who does not examine his bees at regular intervals may have had the disease in his apiary and not be aware of it. Where colonies have had the disease one year, the likelihood of it persisting in the equipment until the following year is very great.

Prevention and Control

The ideal solution to the EFB disease problem would be to breed resistant strains of honey bees. However, until such strains are available, careful management and the use of antibiotics shall have to be depended upon.

The antibiotics, terramycin and streptomycin, are currently being recommended for the control of EFB. Erythromycin appears to be equally effective but further testing is necessary. Based on research, conducted by the Experimental Farm at Beaverlodge in 1954 and 1955 and involving some 2000 colonies, the following recommendations are given.

In the north country many thousands of packages of bees are used every year and European foulbrood is often troublesome.

Dosage—The dosage per colony per treatment has been set at 0.25 grams, i.e., a quarter of a gram of either active terramycin or active streptomycin. A larger dosage does not appear to be any more effective and it may be toxic to the bees. A smaller amount may be insufficient, especially in severe cases.

Vet-strep, a streptomycin compound, and Terramycin Poultry formula 25, a terramycin compound, are currently the two most widely used antibiotic compounds in western Canada for the control and prevention of EFB. Vet-strep is a granular compound and cannot be used as a dust.

Vet-strep—one level teaspoonful is equivalent to five doses.
—one level tablespoonful is equivalent to 15 doses.
—one 75-gram bottle has 120 doses.

Terramycin Poultry Formula 25 or Terramycin Animal Formula 25
—one level teaspoonful equals one dose
—one level tablespoonful equals three doses.
—one-half pound T.P.F. 25 or T.A.F. 25 equals 50 doses.

In addition to the above there are other forms of terramycin and streptomycin. A beekeeper should consult his Provincial Apiarist before purchasing them.

Preventive treatment is usually given to colonies in apiaries where EFB was present the previous year. It was found that EFB does not appear in package bee colonies until approximately five weeks after the bees are hived. On this basis the first preventive treatment is given four weeks after hiving the bees. Four weeks later, give a second treatment. This is necessary because the antibiotics tend to lose their effectiveness in a short time. Sometimes a third treatment is necessary, especially for early packages.

Control treatment is given to infected colonies. Treat immediately and follow with a second treatment in three weeks. If the disease persists treat again in a further three weeks.

tractor—36 lbs. in all. From my first official lecturer in apiculture seasons.

Method of Feeding the Antibiotics

Syrup—as a rule feeding the antibiotics in sugar syrup is preferred. Four pounds of syrup (2 lbs. sugar, 2 lbs. water) per colony is sufficient for each treatment. The antibiotic should be dissolved in water before being mixed in with the syrup. This mixed syrup may be placed in feeder cans, Singleton feeders, Boardman feeders, or even sprinkled or sprayed into empty combs. As the antibiotics tend to lose their potency in syrup, the mixture should be fed immediately.

Dust—Dusting is recommended during a honeyflow when bees are not likely to take up feed, or for colonies which have sufficient spring feed. Only antibiotics in powder form are suitable for dusting. Dilute the antibiotic in powdered sugar (icing sugar) giving two level tablespoonfuls of sugar to each colony. Dust the mixture on the top bars of the brood chambers. The dust may be blown in but as there is some loss this way, the dosage may have to be increased slightly. The dust mixture may be stored for some time.

Beaverlodge, Alberta

(From "Timely Hints," Experimental Farm, Beaverlodge, Alberta.)

A Memorial To Canada's First Commercial Beekeeper, David Allanson Jones

A memorial day on June 1 at Beeton, Ontario, paid tribute to David Allanson Jones, the first commercial beekeeper in Canada. His beekeeping enterprise became so large that he was known as the "Bee King" of the nineteenth century.

He was born in Ringwood in York County. Before taking up residence in Clarkesville in Simcoe County, he lived for a while in Illinois where he went to work on a livestock farm. Later he operated a training school for dogs and horses but his most successful venture in the States was selling books and fruit trees.

Shortly after returning to Canada he set up a general store at Clarkesville in partnership with his brother, later Senator L. M. Jones. He leased the store, after his brother moved, and bought fifty-one acres of land, setting up a village on part of the property.

His greatest contribution was to the beekeeping industry and he pioneered many aspects of the business in Canada, large-scale honey production, beekeeping equipment manufacture, queen raising and the publication of a bee journal, the Canadian Bee Journal, still published as the official organ of the Ontario Beekeepers Association. It was a tribute to his beekeeping endeavors that the post office name of "Clarkesville" was changed by the postal service to "Beeton" in 1874.

His beekeeping career began with the purchase of two swarms of bees from a neighbor in 1870. In 1871 he wrote in the American Bee Journal: "I commenced here this spring with six stocks in movable comb hives and one in a box, seven in all. The box stock never yielded any surplus until transferred and then only 31 lbs. in comb and 5 by the ex-

Plaque honoring David Allanson Jones
(Photos from Ontario Agricultural College)

Cemetery monument.

Crowd ready for the ceremonies.

Dr. C. D. Graham, Deputy Minister, unveiling.

tractor—36 lbs. in all. From my other six stocks I have taken nine swarms and 1707 lbs. of beautiful honey. I have now 16 stocks, all in good condition."

In 1880 he produced 70,000 lbs. from 400 colonies. The apiary foreman was paid $12 a month and the boys as assistants received 35 cents a day. By 1884 he was operating about 1000 colonies.

After the showing of a large exhibit at the Toronto Fair, he was hailed as the most successful beekeeper in Canada and students came to him for instruction and to work in his yards at Beeton. Many of these students later became well known. George Lang was one of Canada's largest comb honey producers. F. W. Jones (no relation) of Bedford, Quebec was the founder of Jones and Son, manufacturers of supplies. R. F. Holterman was the first official lecturer in apiculture at the Ontario Agricultural College and also editor for a time of the Canadian Bee Journal.

D. A. Jones entered the equipment business in 1872 and by 1886 he was employing a large number of people. He was the first to import queens from overseas into Ontario and in 1879 he and Frank Benton went to Cyprus and Palestine, at Jones' expense, in a quest for breeding stock. An apiary was established on the Island of Cyprus for raising queens and in June of the following year Mr. Jones returned to Canada with a large number of queens. He also imported Holy Land bees from Palestine and the foundation stock of both lines was placed on islands in Georgian Bay for mating and returned to Beeton for sale. However this venture was not profitable and the islands were only used four seasons.

Jones began the publication of the first magazine devoted to the interests of beekeeping in Ontario and the first issue of the Canadian Bee Journal appeared April 1, 1885. He remained its senior editor until June, 1893. On that date a fire swept through the entire plant destroying the equipment factory and the printing office.

Little was heard of Jones after the destruction of his plant. The scourge of foulbrood sweeping the Province the latter part of the nineteenth century reduced his bees to a nonproductive state. The expense of the importation of bees and queen breeding, coupled with the ravages of foulbrood and the loss of his business by fire, sent him into bankruptcy. He died in his 75th year at his home in Beeton after a brief illness on November 10, 1910.

Let's Do Our Part in Educating The Public

by TROY H. NANCE

In a conversation with a Belgian exporter of honey some time ago, he remarked: "In Europe most people regard the beekeeper as somebody like a doctor or someone of exceptional wisdom. In America no one knows them."

Most of us commercial beekeepers, with our last minute, up-to-date mechanized outfits, have had an experience similar to the following: It is six a.m. and we are in a hurry to keep up with the bees, must hurry to get them to the orchard for pollination; or to shake some packages. We stop at a super gas station to fill up and the attendant asks: "How's the bee business?" "Oh, about like everything else." "Are there any bees in these hives?" "No, just some empties." "What does the queen do?—"

About then a late model car pulls up on the other side with a physician's emblem near the license plate. Nodding to the attendant to finish filling my car, the doctor notices the white boxes. "Some bees, eh?" — " Just some empty boxes I'm taking out to put on the hives for storage." — "How much honey does a hive make?" — "About a hundred pounds, more or less." — "What kind of honey is the best?"—"I like dark honey best but most light colored honey, like clover, orange, or sage has a mild flavor." — "Fascinating, isn't it?" the doctor ends.

My tank is full by now and we must be going. Can't talk too long. As we leave the doctor calls: "How much does a hive of bees cost?" "Anywhere from 10 to 15 dollars." He smiles and looks surprised but we are on our way as we must not lose too much time. He might want us to help him get started with bees as a hobby — — —

Well, what is this all about? The bee journals, the Institute and the Federation have done more than their part in putting honey into public view. I was in a super market recently and noted that there were a half dozen kinds of bread with fairly large letters on the wrappers: "Made with pure golden honey" or "Made with milk and honey." But that is not enough. It still remains up to the individual beekeeper to bridge the space which exists between the masses of humanity and the products and services we have to offer. We cannot remain apathetic to the garbled stories of newspapers and misleading motion pictures from Hollywood.

However the newspapers are looking for something original from the people in simple language and off the beaten track, yet true to fact. Editors are reasonably receptive when approached about material about bees.

Also it is up to the professional and commercial beekeeper to encourage and interest the small beekeeper and to make their welfare his interest. You will not lose money even if you go as far as to extract his honey or loan him a small extractor.

It will not hurt you to give away some honey to children or to newly married couples. Honey is habit forming. If the tobacco or liquor industries can give away their products to nonusers to get them into a habit, so can the honey industry.

In the book, "The Spirit of the Hive," by Dallas Lore Sharp, he says: "The bee's principles of social service are right—Nations must learn of them. Industry, at the present moment, forces the practice for selfish ends to the extreme bitter logic of the bees. But national service is still a strange doctrine in our ears. It remains for nations to accept it; to realize that human society is no longer a world of many nations but rather a colony of peoples, a single social swarm in a world hive; harvesting a common crop from a common field of endeavor, storing it in a common marketplace; thinking, desiring, requiring a common good; succeeding and fulfilling as a whole only as each nation, granting to all others their several rights, assumes its own part in the universal social service, nor stops with that service short of actual sacrifice."

California

The Sideline Beekeeper

LOG GUM -- Log gums have the combs in any fashion the bees happen to get started. They usually have cross sticks placed about a foot from the bottom to support the combs when the bees are "robbed." This consists of removing the combs of honey from below whatever is used for a cover. (Photo from W. A. Stephen, Raleigh, North Carolina.)

EXHIBIT — Sometime ago the North Jersey Beekeepers' Association placed this exhibit at the Packard Bamberger Store in Hackensack. Twenty-eight ribbon awards in seven classes of honey were given. Now that is something any association can do and attract public attention to honey in all kinds of ways.

SWEETH TOOTH — In 1952 lightning killed the mother of "Sugar" and left the pony disconsolate. She ran all over the field neighing with sorrow. Dr. Gallowin (Gettysburg, Ohio) and his grandson were at loss what to do when the boy suggested the pony might like honey. She became a regular customer. (Photo from J. Amin, Gettysburg)

HONEY SIGN — My little brother by my honey sign. He refused to smile and to add to the unfitness of the picture the honey was crystallized because of the cold fall nights. The sign is held by two lag screws to the top of a maple stump which was left about three feet tall for the purpose. (Paul Steffen, Piercetan, Indiana)

A New Honey Contact

by LYNN REYNOLDS

(Illustrations from Laura Hampl)

The large number of health conscious people here in the West gave rise to the Health Food Store. Starting in the large centers they have spread out until most anyone can find one in reach. They feature health foods and health literature, with a vegetarian slant, though anyone with a health idea can find a chance to speak up in these places.

Honey, in one or more forms, is always present, with comb honey favored. An advertiser in Godfrey's Magazine featured tupelo honey as being free from possible contamination by insecticides. So I found eucalyptus honey readily accepted for the same reason.

However, my comb honey was packed in little aluminum foil trays for ready serving and the use of the aluminum was objected to because a person here in San Luis Obispo had developed a strange liver ailment the doctors had said came from the use of aluminum. So, instead of enclosing the whole package in cellophane, we just bagged the piece of honey in the cellophane to keep the honey away from the aluminum and placed a tape around the whole package.

This can be done with most any kind of a small tray with chunks of honey to fit. These can be carried upright in cartons and so delivered in quantity.

Lynn Reynolds

When you sell these in food stores you can browse around and find protein breads, soy flours and confections, old fashioned horehound candy, sunflower seed, unpolished rice, dates, figs and vitamins.

(Following by Laura Hampl, Mr. Reynolds niece. Lynn produces the honey; Laura packs it)

I enclosed pictures of the honey on display in Margo and Larry's Health Food Store here in San Luis Obispo. I created the pack after much searching for a new and better way to market our bulk comb honey. It has been very successful. I have used two sizes of aluminum dishes, a round one and an oblong one 4x6 inches.

To pack, cut good quality comb honey into desired shape and allow it to drain on a rack until all the free honey has drained away. I use a cooling rack in a pan to catch the drip. Since I found some objection to aluminum, in some instances, I first cover the dish with cellophane. Finally cover the whole pack with cellophane and I find that Saran Rap works best as it is self sealing. I have white boxes for the round packs and that makes a very nice package.

New Honey pack developed by niece, Laura Hampl, and Reynolds.

Laura Hampl, niece of Lynn Reynolds.

A Lifetime With Bees

by CHARLES HANDEL

My father was a beekeeper and produced comb honey. When I launched out for myself I produced extracted honey using 10 frame hives and double brood chambers with deep supers. If I were to start again I would use a shallow super.

I sold my honey wholesale for several years to M. V. Facey at Preston, Minnesota. Later to Root in Chicago and to Straub Laboratories, delivered by truck in 10,000 pound loads. Once we were held up by Chicago police and ordered to weigh our load. Okay, honey, we thought; the truck was overloaded.

My location is not the best for top grade honey. A great variety of trees on the hills often have honeydew up to and during a part of the clover flow. This has happened twice in the last two seasons. One year we had combs solidly granulated.

Several years ago quite a number of farmers kept bees and in severe winters they would have heavy losses. I covered a lot of territory gathering up combs. Sometimes these combs were scattered about the bee yard and they were given to me without cost. At one time a supply house told me that I was one of the largest shippers of old comb. Part of the wax was exchanged for foundation.

One day I called at a farm in Iowa where bees were kept but the farmer was not at home. In his orchard he had a tub filled with water for a drinking place for his bees and in the tub he had placed old combs to furnish alighting places for the bees. The combs showed American foulbrood remains.

I do not wear a veil or gloves and I have been stung where veils would do no good. Once when eating a piece of burr comb I failed to see a bee that had crawled into a cell and on the way down it stung. Once in a while wax forms on my ear drum and I must go to the doctor to have it washed out. Once the doctor suggested that there might be a bee in the ear, and, sure enough, there was.

I have always been a reader of the bee journals and attended bee conventions where I once heard Dr. C. C. Miller sing "The Hum-m-m of the Bees."

My hives are packed for winter with cardboard and tarred felt packing, with a full width entrance, just a bee space deep. I have had very little winter loss.

So far I have worked alone all my life, uncapping the honey, extracting, and filling the cans. I handled all the supers and moved colonies to and from outyards. For years I had six yards with a total of from 350 to 400 colonies, producing eighteen to thirty thousand pounds of honey.

Our hobby is growing cactus, dahlias and chrysanthemums. Here is a newspaper clipping about it: "Handel's famed dahlia gardens draw more out-of-town visitors than Savannans. Dahlias are on display until frost. It is impossible to describe the scene in back of the Handel home except by actual visit to the gardens. Giant dahlias cover the entire yard. Now he spends a good share of the summer caring for the extensive plantings or talking with interested groups. The variety of the plants adds to the beauty, as Handel seeks to add each new type he hears about and to build up a complete stock of standard ones.

In winter, since he is a beekeeper, he makes and sells his own kind of honey candy for which he has become well known."

Savannah
Illinois

The School Lunch Program

by CLYDE ANDERSON
Principal Wm. Gray Memorial School
Springerton, Illinois

I send you the cover sheet from a School Lunch Workshop booklet I received at an all day meeting in McLeansboro, Illinois. It shows that these helpful meetings are being held all over the state. The meeting itself stressed what's new in the lunch program. There was a food demonstration and a luncheon in the school cafeteria.

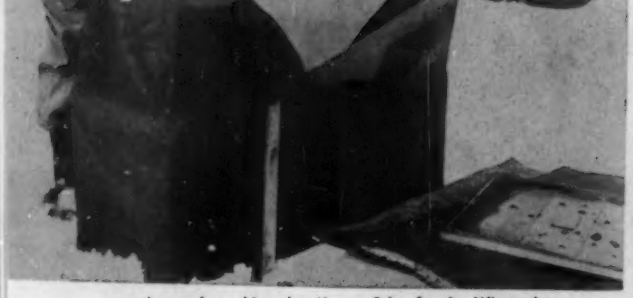
I have been dabbling around with bees for twenty-five years and, from some of the articles I read, I note how desperate some of the commercial beekeepers are for a market. In her talk at the McLeansboro meeting, Mae Webb, Field Supervisor from the Office of Education, told us about what is new on the lunch program. Among other things she asked how many of us would like to see honey put back on the list of surplus commodities which we receive from the state each month for the school lunchrooms. The show of hands was almost 100% and there were some 400 school administrators and lunch room managers present.

So if they ask this question at every meeting (and they probably do) and there are some 25 meetings during this month and next, that means a total of several thousand school administrators and managers who are expecting honey to be coming up in the not too far distant future. After the show of hands Mae Webb said: "That was a very good response and I will see what can be done about it."

Box Nails to Strengthen Repair

The article by M. W. Kosanke (page 342, Sept., "An Easy Way to Repair Hive Bodies") could have added that by the insertion of a series of box nails in the damaged section, being certain that the heads of the nails are below the line of the original wood which was chewed or broken out, the repair would have been better and stronger. These nails driven into the old wood and extending into the plastic wood are just like reinforcing iron in concrete. Of course, the nails are driven into the old wood before the plastic wood is added.

D. S. Jenkins
Kerrville, Texas



A good packing by Henry Schaefer in Wisconsin.

Properly wintered colonies are like this early. (Henry Schaefer)

Wintering Bees In The North

by JULIUS LYSNE

The first consideration for successful wintering is to provide each colony with no less than sixty-five pounds of honey, a good reserve of pollen, with a strong force of bees and a good queen. The reserve of honey should be supplemented by dry sugar on the inner cover near the center hole.

The bottom entrance should be reduced to 3 x ⅜ inches. An upper entrance is decidely a good thing. An auger hole of ¾ inch just below the handhold of the food chamber is advised. This upper entrance is a time proven method of providing for the escape of moisture and the prevention of suffocation during a time when the lower entrance may be closed as during a sleet storm. Also the upper entrance makes winter flights possible any day when the temperature rises above 30 degrees. Frequent winter flights are a decided advantage if there is trouble with Nosema.

A young and prolific queen by October 1 will assure that the colony will go into the winter with many young bees and this too is a first line of defense against Nosema disease. By mid-January it will be noticed that many bees drop in the snow where they die after a winter flight. These are old bees and it means that the queen must soon begin to lay again to keep up the force of bees. This is why a young queen is so important.

The question of winter packing always enters any discussion of wintering bees in the North. Some argue that winter packing serves no purpose as the bees do not attempt to heat the inside of the hive and packing does not raise the temperature of the winter cluster. These beekeepers point to their experience in wintering year after year without packing, with the bees coming through in good condition.

If we ask them if they provide windbreaks they usually say they do —often evergreens. So that explains their success in wintering. A really good windbreak will make packing unnecessary. The best windbreak is several rows of evergreens such as Colorado blue spruce, juniper, or arbor vitae, on all sides of the yard. This is an ideal seldom attained, however. The next best thing is an apiary site on the south side of a tract of woodland.

All too often the hives have to be placed in the open without trees or fence. This makes winter packing a must or the colonies will either die out or become so weak they are out of production for the year.

Bees may be packed in straw or dry leaves. Black jack paper should be used as it does not crack in cool weather. There should be four inches of packing on all sides and six inches on top. Tie the paper down with binder twine. The packing itself acts as a windbreak and stops the force of the winter blasts. Thus the heat of the cluster is not carried off more rapidly than the bees can maintain it.

A real advantage in wintering is lots of snow. If the snow is deep near the hive or even covers it this is a real benefit. In fact if we could be assured of heavy snows by Christmas no packing would ever be needed. All we would need to do would be to take the pains to see that each hive is buried in a snow drift in December and they would be found very strong by March.

Since we cannot always be sure of heavy snows, packing each year is the best plan. Also, with even the best of windbreaks, bees in an unpacked hive consume a larger amount of stores than those in a packed hive. If the beekeeper does the work of packing himself he saves enough in stores to pay the cost of packing. Allowing say $1.00 an hour for his time with straw at 25 cents a bale and black jack paper at $1.75 a roll any beeman can make his own estimate of the cost of packing.

It is true that packing is a chore but it is a job we are more than glad to do. Some form of windbreak should be provided also if possible. Brush or corn bundles may be used or a snow fence if it is available. Any thing that breaks the force of the wind is a help.

Stockholm, Wisconsin

Sugar near hole of inner cover is a supplementary supply of food. Bees work on it when it is warm enough to do so, especially in late fall, warm winter spells, and in early spring. Stored food supply lasts longer.

MIDWEST vs. SOUTHERN BEEKEEPING

by EARL COURMIER

One of the hardest things a beginning beekeeper here in South Louisiana has to do, in reading your magazine, is the translation of dates. We old heads at beekeeping do not have much trouble in this respect, but to the beginner there is a great deal of difference in the dates of many beekeeping management practices in the South and Midwest. If it could be done on a profitable basis, a special southern edition would be exactly what the southern beginner needs.

In the Midwest when the colonies are all packed away in heavy insulating packing for the winter months, our bees are still flying, bringing in nectar and pollen. Last December 31 I was walking in my home yard and saw several bees coming in loaded with pollen. This is a very common occurrence in this section. Packing—we do not use it—it is not needed. It is very doubtful if there are fifteen days in the average year that bees do not fly. Almost any time during the year you can find brood in the hives.

This is an advantage in one way, but it also can be a big disadvantage. One of our greatest problems is to try to keep our bees from converting everything they gather into brood and young bees. Our queens here in the South literally wear themselves out in one season. They start a good brood pattern in February. The brood rearing season is so long and strenuous that the queen soon wears out.

It is very odd to read about the trouble midwestern beekeepers have in getting their bees built up for the flow. A good queen here will fill a hive so full of bees that they cannot stay in the hive. A beekeeper really has to work to stay ahead of the bees and keep them from swarming. He must continually, from the first week in March to the second week of April, cut swarm cells, divide colonies, sell packages, divide brood, and stack on supers to keep his bees from clustering all over the woods instead of in his hives. Boy, they will swarm at the drop of a hat when they get too crowded for comfort. This is not the fault of the bees or the climate entirely. We here in South Louisiana have bred this trait into our bees for generations. We are a package producing area and must have plenty of bees for our northern buyers. The buyer also demands a queen that will build up a strong colony in the short time they have before their flow starts. By a process of elimination carried on for generations we have bred our strain of bees for a fast build-up, for a big build-up, for quietness, and for honey gathering ability. The South Louisiana strain of yellow three-banded Italian bees are the best bees in the country.

The honeyflow: our flow is over before the midwestern flow starts. We have a light build-up flow here from maple, willow, dandelion, and dewberry in February. Blackberry, tupelo, ash, locust, linden, holly, and several other trees continue this flow through March. Our main flow, which is light and long, starts about the first of April, and builds up to a peak the first of May. Our clover flow starts the first of May. The flow gradually tapers off in June. The months of July and August are too hot for bees to work at their best. They get lazy and linger in the hive to escape the heat, barely making enough honey for their own use. By the middle of September the weather has cooled down some and the bees go to work again. October and November we have a fall flower flow from aster, golden rod, pepper vine, etc. that puts our bees in excellent condition for winter.

I have been in contact with a number of beekeepers here in Southwest Louisiana for about five seasons and I have never seen a case of American or European foulbrood. The first season I was a hobby beekeeper, one of my colonies had some dead brood. I called our state inspector for a diagnosis. I could see myself having to destroy my whole three colony interprise because of American foulbrood. The inspector diagnosed my trouble as sacbrood caused by an inferior queen. I requeened the colony which was the end of my disease problem. Our state inspector says that foulbrood is very rare in this section of the state.

All South Louisiana beekeeping is not a bed of roses. Besides the swarming problems, we have a lot more problems that actually cause a lot of work that the northern beekeeper can get out of. Due to the increased amount of brood and bees, we are forced to use two hive bodies for a brood and food chamber. No progressive beekeepers that I know here in this section would think of a colony in one hive body. The national magazines are recommending that the northern beekeepers add new supers on top of the colony. This practice will not work in this locality, especially with foundation. The bees will turn up their nose with a polite, "No, thank you." The only way we can get foundation drawn out here in South Louisiana is to put it down next to the brood nest. This sometimes calls for removing three or four shallow supers and a hive body to get one shell of combs drawn.

The plague of all plagues of the South Louisiana beekeeper is the wax moth. She is ever present, twenty-four hours a day and twelve months a year. We have very few days of freezing weather and no snow to kill them, so they breed right on through the winter. I have found moth larva in my hives in January and February. We must, at all cost, keep our hives clean and dare not let our colonies get weak.

Louisiana

Boy Shies Stings and Is Killed by Auto

Ida Elgaaen, Renner, South Dakota, sends a clipping from the Sioux Falls Argus which reports the death of Terry Schemek of Middleburg, Pa., who tried to run from a swarm of bees but was killed by an automobile when he ran into the street. Terry and three friends were playing near a road when they turned over a bees' home. The bees turned on Terry and he tried to escape with fatal results.

Bees Above All

There was an old beekeeper who lived in the hills and who was a confirmed batchelor and woman hater. One day his best friend, the farmer who lived down the road, told him about a book he had just read, "How to Live Without a Woman." The old beekeeper, when he heard this, spoke up: "That sounds like a darn good book to read. I hate women so much that I'd sooner have a house full of stinging bees than have a wife."

Samuel Freeman

California

Sideline Reading

The enthusiastic beekeeper never gets enough reading material on the many phases of bee culture. Readers do have favorites among those whose writings appear in bee magazines. One is likely to turn to these first, then read everything else in the magazine and when finished, a desire still remains in the mind for more. Many times one will go back through the material with more careful reading and thinking.

To help fill this wish one may and many do return to older issues and read again with amazing interest. Unfortunately for me it was only in 1954 that I started seeing the American Bee Journal. This has compensation in just recently acquiring issues of 1948 through 1952.

It is a thought provoking and stimulating experience to read "The Postscripts" and honey plant articles by Frank C. Pellett. Mr. Pellett was an inspired writer with the power of graphic description. Those who knew him must have loved and acquired from him enthusiastic knowledge of the honey bee, honey plants, bee breeding as well as a greater love for sharing and working with their fellow men. For those of us who did not know him, much of his written work is available, as is much of his material work in honey plants.

Why not locate the March 1948 issue of the American Bee Journal to read again, "The Honey Plant Garden" by Mr. Pellett. Where did "Vitex incisa negundo" come from? Is one of the best spring honey plants The Virginia waterleaf? When did experiments with disease resistance in bees first start? Will any of the better honey plants compete with grass as to survival and yield? It is all there and pleasant reading. Try it. Remember this is only one of the many stories by this grand writer.

Someone should write the Life and Works of Frank C. Pellett. Bee and plant folks would be elated.

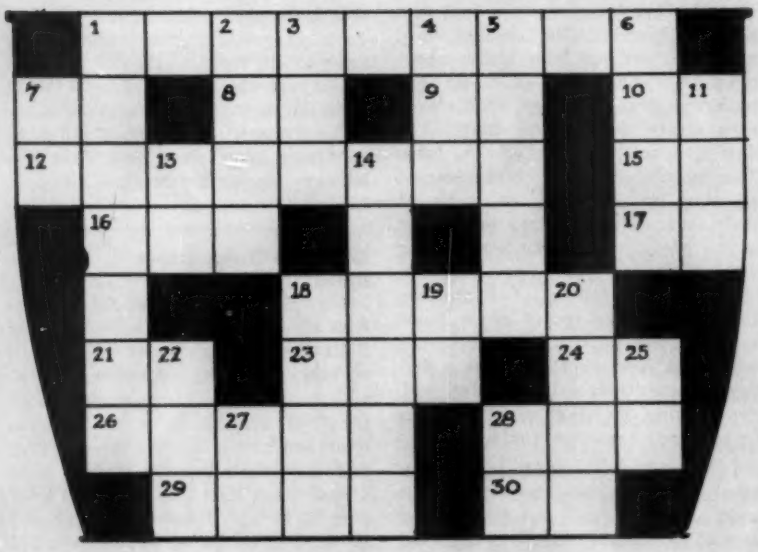
D. C. Chandler,
Maine

About Titles

James Aswell wrote a novel called "The Birds and the Bees" but perhaps bees are not in the plot; or in the novel by Camilo Jose Cela, "The Hive." Joseph Foster's novel "A Cow Is too Much Trouble in Los Angeles" suggests the thought that in Los Angeles one may have a beehive anywhere but few want to invite the trouble that is involved with one hive of bees!

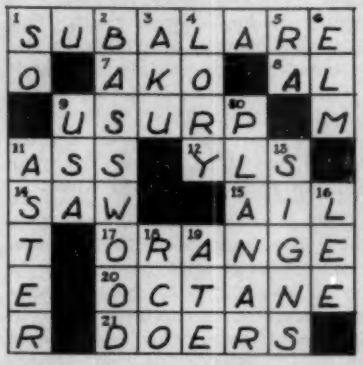
Samuel Freeman
California

PAT'S PUZZLER — *The Mixing Bowl*



ACROSS
1. These drinks are made with fruit juices and honey
7. Therefore
8. Pronoun
9. Doctor of Divinity (Abbr.)
10. Aluminum (Chem.)
12. The insect we know best
15. Georgia (Abbr.)
16. One's relatives
17. Engineering Corps (Abbr.)
18. Preserve - try making it with honey
21. Exclamation of slight surprise
23. Cereal grass
24. Antiaircraft (Abbr.)
26. Serve with lettuce and a honey dressing
28. Amount (Abbr.)
29. Belonging to a man
30. Be

DOWN
1. Delicious made with chocolate chips, honey, and nuts
2. Genus of white geese
3. Needed to open lock
4. A drink of citrus juices, water, and honey
5. Perfect
6. Non-graulating honey
7. Hush
11. A milk
13. Nickel (Chem.)
14. Baking these brings out that wonderful aroma
18. Girls name
19. Lieutenant (Abbr.)
20. Sweet potatoes
22. Meat that goes with No. 20 down
25. Preposition
27. Tone on the musical scale
28. Three-toed sloth



THE WINNERS
For October

Just a small bit better this time—five contestants, one wrong; four winners all in different states. Well, must be readers have won themselves subscriptions and so have no further interest, as the rule of the game goes; or it's tiresome; or after all most readers just were not interested, except perhaps to mark out the answers at home. One more—December—and then we have cooked up something else.

Subscriptions to the following:

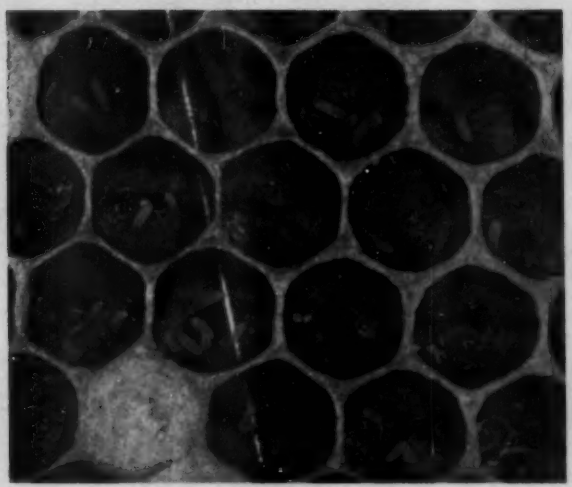
Minnesota—Reuben E. Koenig, Ceylon

Florida—A. W. Hubbel, Mount Dora

Ohio—Kenneth L. Sharpe, Port Clinton

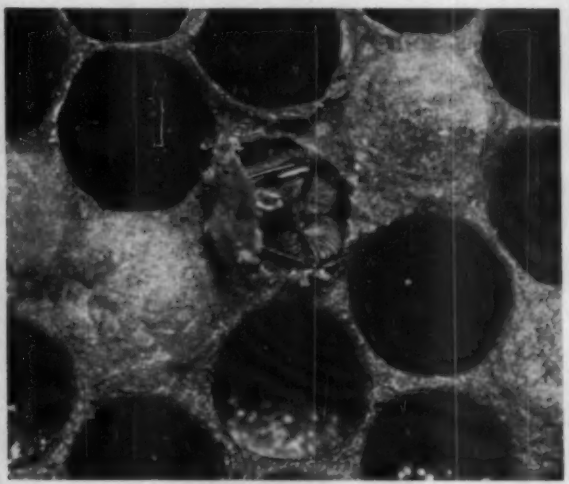
Washington—Ray N. Woolford, Kalama

The Beginner and His Bees



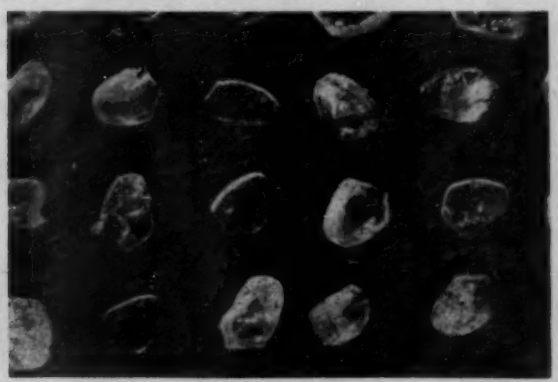
Eggs

From "The World of the Honey Bee" by Dr. Colin G. Butler (Macmillan Co., Publishers, New York). Eggs of laying workers. In one cell at the bottom left are three larvae. Multiple eggs in many cells; some with eggs and larva in same cell. This mixed condition is common in the laying of workers whose ovaries are developed enough. Brood resulting is drone.



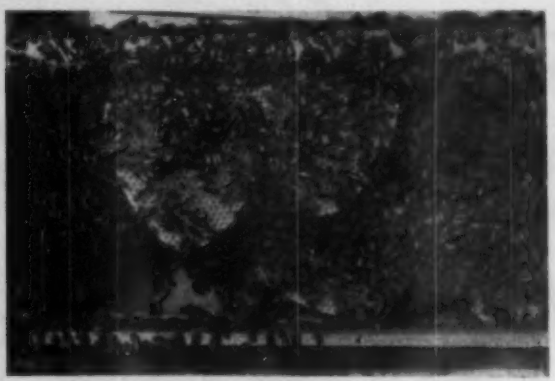
Emerging Bee

Photo from John Allen and Sons, West Lafayette, Indiana. Shows a worker bee emerging from her cell. She gets hungry and eats her way out since the cap has both honey and pollen in its makeup. Once out she staggers and wobbles around until some kind sister gives her a good meal of honey. From then on she does nurse work, hive work, and then field work.



Wax Scales

Photo by John Brock, Photo Science Service, Cornell University, Ithaca, New York. Individual and enlarged wax scales just as they are produced by the worker bees. A pound of beeswax contains about 800,000 of them. Scales are secreted from wax glands under the last four segments on the under side of the bee. When they are secreting wax the bees hang in festoons during the process of wax secretion.



New Comb

Frank Pellett took this picture, and others showing comb building, probably the best ever depicted. Wax is being secreted by the bees in the festoons at the sides of the new comb. There are four fingers of comb, all virgin wax and almost paper white. Anywhere from 5 to 25 pounds of honey may be used in making a pound of wax. Between 6½ to 8½ pounds is an average amount.

The Beginner and His Bees

Let's Sell The Crop

by W. W. CLARKE, JR.

There are many ways for the beginner and small beekeeper to dispose of his honey. There is no reason why there should be any surplus honey on hand at the end of the year, but quoting from The Beekeepers' News, published in England, "It's poor economy to sell the surplus from two to three hives since nothing can be bought with the money that can replace its value as a food." Of course, many of the smaller beekeepers do produce much larger crops than can be consumed at home and it's a good idea to take in a little money to defray part of the cost of keeping the bees; there is nothing like a hobby that pays its own way.

The best outlet for the small beekeeper is at his back door. Once it is established in the neighborhood that good honey is available, there is usually little problem in disposing of several hundred pounds. This type of selling usually takes time; as one beekeeper said, "Everyone wants to talk about bees." This is wonderful advertising, as well as educating the public to the story of honey and bees. It's well to have a variety of flavors, colors and forms (liquid, cream, and comb) on hand so that individual tastes may be accommodated. This often leads to multiple sales.

If the beekeeper produces enough to sell by the case, then he is ready to approach the roadside stands or the local stores. The roadside stand, which sells fruit and vegetables in season, is an excellent outlet. People seem to associate honey with fruit. Local stores will want a steady supply so it is necessary to have enough for replacement throughout the year. These stores should be serviced at regular intervals to take care of crystallization. In many areas, the local honey is preferred to commercial packs.

There are many special ways to pack honey to make it a desirable tourist trade item. In one location, where there was a pottery industry, one of the local beekeepers bought pottery jugs which he filled with honey; he found that he could hardly meet the demand. He finally bought honey from his neighbors who could not dispose of their surplus. Another man packed creamed honey in the old-fashioned penny candy jars and

There are many attractive ways to pack honey; plastic containers, creamed honey, liquid in jars, comb in cartons. A small producer should have no trouble disposing of his crop.

developed a market for a gift item. There are untold numbers of possibilities which could be developed with a little imagination and effort. This type of marketing usually pays well.

Literature from the American Honey Institute at Madison, Wisconsin, which is given away at home or wherever honey is sold or shown at fairs, will help to sell honey. It will probably do more good than spending money on newspaper advertising. One of the most successful small beekeepers in this area is a woman who sends a postal card to her customers when the new honey is ready or when she has something special in the way of flavor.

The most important single rule for successful selling is to maintain a high-quality product. Once people know that honey is available, they will return for it if it is a good value. Put a sign in front of the house or at the end of the driveway and have a few well-cared-for hives nearby in an attractive setting to draw attention to the location.

Speaking to groups, such as the Service Clubs, P.T.A., Scouts, or school classes will help a great deal to let people know about honey. Displays at fairs, stores, or other available places will be a big help. They should be attractive of course; sometimes just a large volume of honey does the job.

There is a market for honey; tell people about it. Sell only a quality pack and it's a safe bet that it will all be gone before the next crop is ready.

A Beginner's Attempt at Uniting

by RAYMOND W. HERRICK, JR.

About the middle of September I had the good, or bad, fortune of having two colonies of honey bees given to me. For the care of them I was to keep what honey I could extract from them.

My first consideration was to ascertain whether they were in condition to winter well, and see what had to be done to get them in shipshape, as they had been very much neglected for quite some time.

Upon examining them, I found that one colony was in very good condition. It contained a surplus of honey and also had considerable brood.

The second was very low on food and there was no trace of brood, showing that the queen was either failing or else was missing.

I immediately thought of uniting the two hives. This was, to me, a great undertaking as this is my first year of being a beekeeper, having purchased one hive and equipment early this spring.

I gathered up my magazines and books and started reading all the information I could find on the subject of uniting. There were several methods and their pros and cons, but in the end I wasn't exactly sure what method would suit my particular case.

Bravely I decided to combine several, plus my own inexperience, and hoped that I could make one strong hive out of the two.

The main part of my uniting experiment was the newspaper method, and after this step was where my insecurity began, as I couldn't (for some unknown reason) find the queen in the colony that was failing.

After placing the newspaper, filled with several very small holes, upon the food chamber of the stronger colony, I placed the entire weak colony upon the newspaper. Closing the hive with the inner cover, followed by the outer cover, I left them for a whole week, not disturbing them any further by continuing to look for the queen, as I knew that after the bees united by eating away the newspaper, the stronger queen would kill the weaker one.

When I returned to examine this hive a week later, I was happy and encouraged to find that the paper was almost entirely eaten away and the bees had united successfully and seemed quite content.

This colony now seems quite vigorous and by all appearances should be strong enough to winter well.

There is no indication of disease, and the hive is protected from the direct elements. I do not intend to wrap the hive up this winter.

I didn't get a great amount of honey this year, but conditions in Connecticut were very unfavorable.

In bees, I have found a hobby that is very interesting and rewarding. I intend to purchase more bees as soon as spring again makes it possible to work them.

Connecticut

Strength in Honey

The Hindus write that honey is a food which "strengthens a weak heart, a weak stomach and a weak brain. The bees produce a far healthier sweet than any sweetmaker with all his ingenuity and many ingredients can ever hope to make."

Harry Troeger
Miami, Florida

Effect of Queen Substance on Crustaceans

The "Queen-Substance" of honeybees and the ovary-inhibiting hormone of crustaceans. David B. Carlisle and Colin G. Butler (Rothamsted Exptl. Sta., Harpenden, Eng.). *Nature* 177, 276-7 (1956.)

The eye stalks, which contain the sinus wherein the ovary-inhibiting hormone is stored, were removed from female prawns, *Leander serratus*. Ovarian development in these prawns was strongly but incompletely inhibited by injections of an alcohol ext. of a queen honey bee, *Apis mellifera*. In a reciprocal expt., feeding the alcohol ext. of the sinuses of the female prawns, had a decided inhibiting action on ovarian development in queenless worker bees. It is suggested that ovary-inhibiting materials of bees and prawns are the same or related cpds., possibly steroids, and occur in a number of arthropods.

F. B. Wells

Arson Reward Offered

L. E. Strader, Rural Hall, North Carolina, sends a clipping about two Wilkes County beekeepers who had 21 colonies of bees destroyed in a fire. Hilgary Davis and J. E. Warren, the two owners, offered a reward of $125 to anyone who can help apprehend the individual who burned the outfit. The total losses amounted to about $1000. An empty jug smelling of gasoline was found near the burned colonies. The bees had just finished two supers to the colony of fine sourwood honey when the hives were soaked with the gasoline and the fire started.

Our Cover Picture

If you will glance back to the cover for August 1953, you will also see Deborah Bowman wistfully looking at the dish of comb honey. Leon Bowman is a teacher in Hilliards, Ohio, and he has just sent a new picture of Deborah, four years older, which came too late for this issue. It will be used next time. Deborah is now ten and in the 5th grade. She is the biggest honey eater of the family and five growing kids can really stow away a lot of honey. Leon still has bees but bee pasture is less than it was. However his apple crop was tops because of the bees.

A. Rajagopalan in Dadant yard. Familiar to us as "Raj", and a wonderful young man. His work is like that of an extension specialist here.

The Bees Of India

A. RAJAGOPALAN, Beekeeping Organizer Gujarat Region—Bombay State

Scientist beekeepers as well as learned beekeepers know that India is the "Home of Bees." When I say "Home of the Bees," I mean in both senses: honey bees originated in India and India is full of bees.

The Indians collected honey from seven kinds of bees in ancient days. But now we gather from only four: (1) *Apis Dorsata* (2) *Apis Indica-Mellifera* (3) *Apis Florea* (4) *Melipona or Trigona.*

(1) *Apis Dorsata*: These are the largest and the biggest bees among the genus "Apis" and the most industrious too. Appropriately, foreign beekeepers call them the "Giant Bees" of India. These bees are found only in India and her territories and they live in the plains and in the hills up to an altitude of normally 5,000 feet. They are also known as "Rock Bees" as they mostly build their combs under overhanging rocks. But as a rule they prefer to build their combs in isolated and inaccessible places like rocky hills, on the branches of tall trees, and the terraces and cornices of big buildings. It is not unusual to see many a colony in a particular rock, tree or building at the same time maintaining their individuality. To an onlooker from a distance the big clusters of combs on the branches of a tree look as if the tree had borne fruits. It may seem incredible but it is a fact.

The chief characteristics of these bees are two. Except in size they are very similar to Apis Mellifera-Indica or Apis Mellifera. (a) The "Giant Bees" of India build one huge comb in the open, measuring sometimes five to six feet in length and three to four feet in breadth. The thickness of the honey portion sometimes will exceed a foot. From such, a single comb about 60 to 80 lbs. of honey is often obtained. The major portion of the honey which comes to the market today in India is from these bees. Considering the huge quantity of honey gathered from them, some of the state governments of India have included this in "Minor Forest Products" and the right to gather honey from them is being given in "Monopoly." Under exceptional circumstances these bees are found to build a small second comb. (b) The Giant or Rock bees are migratory in character. They change their home following the changes in climatic conditions.

Under favorable conditions they expand their comb building to their maximum requirements and at the end of that period the bee cluster shrinks leaving the border comb exposed thus inviting the wax moth to lay their eggs. When the caterpillars of the wax moth start tunnelling the midrib of the comb the bees prepare to say "good-bye." At the end of a favorable period, scarcity and non-availability of bee food compel the bees to seek a new home in a favorable place. They select a comparatively cozy corner to make their home, but when the climatic conditions change, the combs are affected by direct wind, strong sun or heavy rain so eventually they have to abandon their home.

It is a common belief that these bees are most dangerous and cannot be handled, but this is not correct and is greatly exaggerated. I admit that they are comparatively more sensitive and do not brook sudden disturbances. But under favorable conditions and with proper approach the bees are agreeable to manipulate. Recognizing this, the Government of India has done experimental work

and the results so far obtained are encouraging.

The size and industry of these bees in collecting honey and their comb building capacity have attracted the attention of many beekeepers, including scientific beekeepers of the world particularly of the western world and a few of them have attempted to study them. But the non-availability of colonies for continued studies hindered their efforts and until today no systematic attempt to understand them has been made.

I understand that Mr. Hairland has announced a reward of twenty pounds (20 £) for anyone who would bring the Dorsata bees under human control and the amount is deposited with the British Beeekeepers' Association, England.

(2) *Apis Indica Mellifera:* There is no difference between Apis Mellifera and Apis Indica Mellifera except that Indica is a little smaller and collects less honey. These bees abound all over India. In certain localities we find more than one hundred colonies per square mile in their natural abodes. Usually the colonies are found in the hollows of tree trunks, in cavities under the ground, in the crevices of the rocks and walls, in earthen pots, like places where light cannot pass through.

(3) *Apis Flora:* These are the smallest among the Apis found in India and their habits are similar to Apis Dorsata. They build only one very small comb in the open, in bushes, hedges, and on the branches of small plants. They store a pound or two of honey in their little comb. They are also migratory.

(4) *Melipona or Trigona*: These are the smallest bees from which we gather honey. They are a little smaller than a house fly and have no stings. They build irregular sphere-like cell combs with gums and resinous substances collected from plants, in the hollow of tree trunks and in the crevices of walls and like places. They also collect very little honey, but it is said to contain more medicinal properties.

It was the belief that scientific beekeeping along modern lines was not practiced in India in olden days. But recent research in Sanskrit literature indicates that beekeeping was in vogue 4,000 years ago. However, for unknown reasons the art mysteriously died and not until the early twenties of the present century was modern scientific beekeeping practiced again in India.

Pine Honey in Europe

Journal Suisse d'Apiculture has an article in its August number by G. Nicholson copied from "Monde Apicole." Pine honey is a clear white exudation coming both from the pines and certain firs, the season extending from June through August and sometimes into September. There are years when the harvest may be as much as 8 to 10 lbs. a day and even up to 150 to 200 pounds for the season. While these flows may be taken advantage of in Alsace in France, most of the harvest comes from moderate elevations in Germany. The honey is highly esteemed.

Bee Research Publications

In hand is a copy of "Laboratory Diagnosis of Honeybee Diseases" by H. A. Dade, a 20 page monograph of the Quekett Microscopical Club with some 10 plates included. Price 35c. Also a "Survey of British Honey Sources" by A.S.C.Deans, with charts, locations and various other data, also 20 pages, price 35c.

Both of these are available by addressing the Bee Research Association, Ashcroft, Ongar, Essex, England.

Honey Bee Control by Drugs

Alin Caillas in "Abeilles et Fleurs" for July-Aug. reviews the various control drugs. His own marketed preparation is called D'Omt 'Abeille and is evidently a coal-tar derivative, used in a smoker. He mentions the nitrate of ammonia suggested by L. R. Stewart in these columns a few months ago. The Germans favor carbonic gas. Another possible pacifier is lycopodium powder in a smoker (not lighted). All must be used with care and with experience may give good results.

Recent Bulletins and Reprints

Food of Adult Drone Honeybees—J. B. Free, Rothamsted, England.

Cause of European Foulbrood—L. Bailey, Rothamsted.

Problems of Red Clover Pollination—Butler, Free and Simpson, Rothamsted.

Mating Ranges of the Honeybee—Peer; Dept. Agri., Ottawa.

Multiple Matings of Queens—Peer, Ottawa.

Transmission of Food to Bees—Free, Rothamsted.

Rothamsted Bee Department—C. G. Butler.

Egyptian Bulletins

Author Dr. A. K. Wafa of the Department of Plant Protection in Cairo, Egypt, has favored us with copies of his bulletins issued in March, November and December of 1956. Bulletin 98, the "Two Queen System" is recommended if used with the proper procedure and precautions. In Bulletin, 99, "Factors Affecting Pollen Grain Gathering by Bees," the amount gathered was generally affected by temperatures. His 36 page Bulletin 103 on "Activity of the Oriental Hornet and its Damage to Honey Bee Colonies," is particularly valuable on account of the great amount of injury done to honey bee colonies by this hornet. When the bee colony is the least active the hornet advances its activity. Temperatures have quite an effect on the depredations of the hornet which are often so severe as to decimate the colony or the apiary.

Sounds Made by Honey Bees

A Swede, Von Ake Hansson, did some researches on the different sounds emitted by honey bees, and using appropriate means of crystal microphone, amplifiers, and sound generators, was able to reproduce and measure the different sounds made by the bees.

These measures are expressed in number of vibrations per minute:

	Vibr. per min.
Made by flight of drones	207
Ventilation activities	216
Flight of fertile Queen	226
Flight of worker bee	239
Flight of virgin Queen	253

The honey bees can well distinguish the different sounds that are produced. The thought that the bees are deaf is averred to be false, since they re-act in line with the variations in sound.

Journal Suisse d'Apiculture
June 1957

Mead Making

"A Background to Mead Making" is a 16 page booklet by C. B. Dennis, distributed by The Central Association of Beekeepers, M. E. Horton Sec. Ilford, Essex, England. This is a revised edition and gives a concise and thorough explanation of the making of mead. It is available as above at a price of 60 cents postpaid.

Report from the Honey Industry Council of America

by L. H. LITTLE, Secretary - Treasurer

From June 30 through August 31, 1957

REVOLVING FUND

BALANCE—PEOPLES NATIONAL BANK JUNE 30, 1957		$ 686.79
RECEIPTS:		
Sale of Stamps	$ 531.00	
Contributions	1,200.00	$1,731.00
TOTAL RECEIPTS THROUGH AUGUST 31, 1957		$2.417.79
DISBURSEMENTS:		
Contributions:		
American Honey Institute for July and August	$ 800.00	
American Beekeeping Federation July and August	400.00	$1,200.00
BALANCE—PEOPLES NATIONAL BANK AUGUST 31, 1957		$1,217.79
Savings Account—Peoples National Bank		$3,000.00

Concerns Participating In The Check-Off Plan From September 1, 1955 Through August 31, 1957 Who Have Purchased Stamps

R. B. Willson, Inc.
250 Park Avenue
New York 17, New York

Superior Honey Company
P. O. Box 1007
South Gate, California

Morton's Quality Foods
6333 Denton Drive
Dallas 1, Texas

T. E. Burleson & Son
Waxahachie, Texas

Old Taylor Honey Company
L. D. Taylor
Harlan, Iowa

Rocke Apiaries
Eureka, Illinois

Kane Import Corporation
10 East 40th Street
New York 16, New York

Jack Gomperts & Company
Mr. Ken Golding
110 Market Street
San Francisco, California

B-Z-B Honey Company
361 East Valley Blvd.
Alhambra, California

Lose Brothers
204-206 E. Jefferson Street
Louisville, Kentucky

R. W. Barnes & Sons
P. O. Box 114
Oakland, Nebraska

H. F. Botsford & Company
Bell Avenue
Carnegie, Pennsylvania

Clearbrook Honey Farms
George McReynold
Clearbrook, Minnesota

Superior Honey Company
349 Third Street
Ogden, Utah

Superior Honey Company
Ralph J. Stone, Manager
P. O. Box 3546
Phoenix, Arizona

L. H. Little
Secretary-Treasurer
of the Honey Industry Council

Champlain Valley Apiaries
Charles Mraz, Manager
Middlebury, Vermont

R. D. Bradshaw & Sons
P. O. Box 337
Wendell, Idaho

Clover Bloom Honey Company, Inc.
Glenn Gibson, President
P. O. Box 276
Minco, Oklahoma

Howard Honey House
Vernon G. Howard, Proprietor
4170 S. Howell Avenue
Milwaukee, Wisconsin

Weaver Apiaries
Roy S. Weaver, Jr.
Navasota, Texas

Superior Honey Company
Thomas F. Ball, Mgr.
4242 Elizabeth Street
Denver 16, Colorado

Hazeltine-Staats Apiaries
204 Sixth Avenue, S. W.
Cedar Rapids, Iowa

Finger Lakes Honey Producers Co-Op., Inc.
Frederick J. Griffin, Manager
206 West South Street
Groton, New York

Superior Honey Company
Idaho Falls Branch
Idaho Falls, Idaho

Sioux Honey Association
509-11 Plymouth Street
Sioux City, Iowa

Dadant & Sons, Inc.
Hamilton, Illinois

O. E. Timm
Bennington, Nebraska

Banker's Honey Market
Robert Banker, Manager
Route 1
Cannon Falls, Minnesota

Hamilton & Company
2613 South Yates Avenue
Los Angeles, California

Haefeli's Honey Farms
Monte Vista, Colorado

Pleasant Hill Honey Farms
Route 3
Stoughton, Wisconsin

E. J. Bordelon Apiaries
Moreauville, Louisiana

John Kreuger
Deloit, Iowa

Melford-Olson Honey Company
5200 Douglas Drive
Minneapolis, Minnesota

Clearbrook Honey Company
Route 1, Box 62
Cannon Falls, Minnesota

Hughes Honey House
440 South Geneva Avenue
Bellwood, Illinois

Cloverdale Honey Company
113 Central Avenue
Fredonia, New York

Miller Honey Company
67 East 33rd South
Salt Lake City 15, Utah

Helen's Apiaries
F. Q. Bunch, Manager
Welch, Minnesota

Cloverdale Honey Company
113 Central Avenue
Fredonia, New York

Miller Honey Company
67 East 33rd South
Salt Lake City 15, Utah

Contributors
No Stamps Issued

Cox Honey Farms
Shelley, Idaho

W. C. Chiles
Box 911
Albuquerque, New Mexico

E. S. Westfall
Howe Cave, New York

Robert R. Rice
5880 N. W. 22nd Avenue
Miami, 47, Florida

Sioux Honey Association
509-11 Plymouth Street
Sioux City, Iowa

Newer Fungicides and Their Effects On Honey Bees*

F. R. Shaw, A. I. Bourne and Roger Migliorini

In recent years, in many of the northeastern states, fungicides have been applied during fruit bloom in order to control apple scab. Such recommendations have been of concern to the beekeepers who felt that their bees might be killed.

In order to obtain some information on this matter, the authors conducted a series of tests using the fungicides most often included in bloom sprays. The present paper presents a summary of the information they obtained.

Review of Literature

Shaw, 1941, summarized the literature dealing with the effects of fungicides on bees up to that time. In 1942, Shaw and Bourne reported that sulphur applications during bloom could produce dysentery in bees, could reduce the length of life of the bees and were repellent to bees.

Shaw, 1952, conducted field tests to determine the hazards of phenyl mercury lactate (puratized) to bees. In these tests, bees were exposed to the effects of this material as a contact and as a residual poison. It was concluded that concentrations of this fungicide up to 4X had little effect on honeybees under the conditions of the test.

Present Investigations

In 1955, the author carried on tests of the effects of glyodin, 1 quart per 100 gallons, captan at the rate of 2 lbs. per 100 gallons, ferbam at the rate of 1½ lbs. per 100 gallons and phenyl mercury lactate at the rate of 1 pint per 100 gallons. These applications were made to caged bees suspended in trees. A compressed air sprayer was used to make the application. Bees were exposed to the contact action and a second lot was exposed to a dried residue of each of these fungicides for twenty minutes. Following the exposure to the fungicides, the bees were placed in clean cages, placed in a dark room at a temperature of 65° - 70° F. and provided with 1 - 1 sugar syrup. They were observed once a day, and the dead bees were removed and recorded. The following data were abtained:

Table I

Days required to produce 50 per cent mortality of honey bees by certain fungicides.

Checks	21
Captan	
Contact	21
Residue	23
Ferbam	
Contact	21
Residue	23-24
Glyodin	
Contact	1-2
Residue	20-21
Phenyl Mercury lactate	
Contact	22
Residue	19-20

On the basis of these investigations it was concluded that with the possible exception of glyodin, the fungicides had no significant effect on bees under the conditions of the experiment.

Parsons and Martin, 1956, tested the effects of 14 fungicides on honeybees. They included both laboratory and field tests. As contact agents under laboratory conditions, these investigators indicated that phenyl mercury lactate, glyodin, Tag 331, zerlate and Coro SSD killed 50 per cent of the bees within four days. Under field tests, phenyl mercury lactate and Tag 331 proved poisonous to bees. Glyodin under field conditions seemed to be less toxic than in the laboratory.

Anderson, Shaw and Sutherland, 1957, reported on the effects of various fungicides on bees. On the basis of field tests using commercial spray machinery, their data indicate no or little toxicity of any of the fungicides tested under field conditions at the rate usually recommended.

Shaw, Bourne and Migliorini, 1957, tested the effects of glyodin still further under field conditions. Bees were exposed to dosages of from one to twelve times the amount of fungicide usually applied. They were also exposed to varying concentrations of the material from one to twelve times those normally applied. The data obtained appear in tables II and III.

Table II

Effects on honey bees of variable concentrations of glyodin at normal dosages.

Treatment	*Percent Mortality in 15 Days*
Check	35
Water Spray	36.4
Glyodin 1 Qt/100 Gal.	28.8
Glyodin 2 Qts/100 Gal.	32.9
Glyodin 4 Qts/100 Gal.	42.4
Glyodin 8 Qts/100 Gal.	53.3
Glyodin 12 Qts/100 Gal.	47.2

Table III

Effects on honey bees of variable dosages of glyodin applied at a concentration of 1 qt. per 100 gallons.

Treatment	*Percent Mortality in 15 Days*
Check	35
Water Spray	36.4
Glyodin 1X Dosage	28.8
Glyodin 2X Dosage	37.4
Glyodin 4X Dosage	35.7
Glyodin 8X Dosage	42.9
Glyodin 12X Dosage	88.6

From these data it appears that glyodin applied as a contact agent to bees had no or little effect when

used under field conditions at the dilutions generally recommended. Not until dosages of eight times the normal amounts were applied was there any significant increase in mortality. Not until concentrations of 4 quarts of glyodin were applied was there any significant increase in mortality in comparison with the checks.

Conclusions

Under the conditions of tests conducted in Pennsylvania and in Massachusetts, the applications of glyodin, captan, fermate and phenyl mercury lactate did not result in any appreciable mortality of honey bees. These applications were made at relatively low temperatures—not over 70° F. Whether similar results would be obtained if the materials had been applied at higher temperatures cannot be stated at present.

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Parsons, W. and E. C. Martin
1956. Some effects of fungicides on honey bees. Quart. Bul. Mich. Exp. Sta. 34: 248-58, figs. 1-5.

Shaw, F. R.
1941. Bee poisoning—a review of the more important literature. J. Econ. Ent. 34: 16-20.

Shaw, F. R.
1952. The effects of a phenyl mercury compound on honey bees. Modern Beekeeping 86: 224-225.

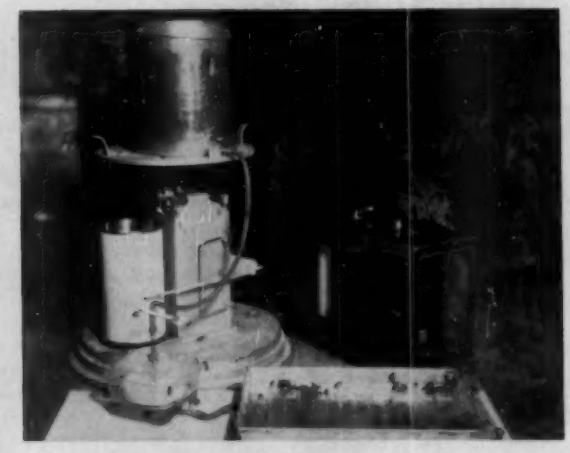
Shaw, F. R. and A. I. Bourne
1942. Some observations on the effect of sulphur, applied during bloom, on bee behavior. Jour. Econ. Ent. 35: 607-608.

Anderson, E., F. R. Shaw and D. J. Sutherland
1957. The effects of certain fungicides on honey bees. Jour. Econ. Ent. 50: (In Press)

* Contribution No. 1276—Dept Entomology, University Massachusetts.

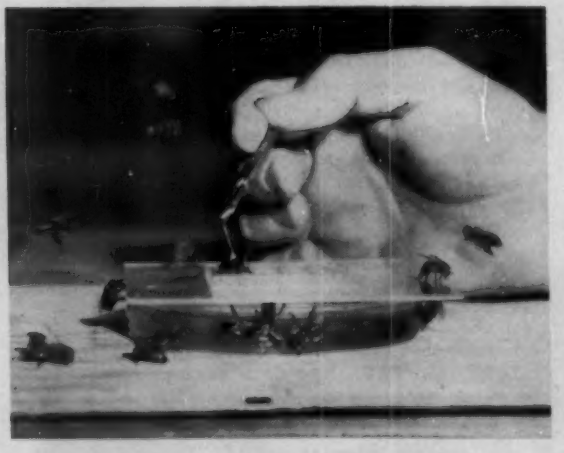
Plastic Flowers Aid Bee Research In The Arizona Desert

A. W. Woodrow with artificial "flower" he contrived for use in feeding experiments.



A large edition of the "artificial flower" is being visited by the bees for the syrup.

Frank E. Todd in charge of the station at Tucson, Arizona, marks bees so he can tell how long it takes to deliver the nectar to the hive and to return.



Close up shows how bees are marked.

(U.S.D.A. photographs)

Some of the dry, barren stretches of Arizona are "blooming" this spring and summer with plastic flowers developed by U.S. Department of Agriculture bee-culture specialists.

The artificial flowers were invented by Dr. A. W. Woodrow of USDA's Agricultural Research Service for use in bee-feeding experiments at the Southwestern Bee Culture Laboratory in Tucson. The scientists are setting out the flowers along with bee colonies in isolated and barren areas of Arizona.

Many studies have been made of caged bees, but USDA agriculturists point out that they do not provide conclusive information, because bees are "social" insects and cannot lead a normal life when caged. In such situations the bees are deprived of a queen, must partake of an enforced diet, and are restricted in their movement. Artificial flowers will permit the specialists to study bees in the wild, and at the same time control their diets since few other sources of nectar are available in the Arizona areas chosen for the experiments.

The "flowers" are lucite blocks with holes drilled in them. The syrup the bees will sip in lieu of nectar is placed in a flat, shallow dish or pan, and a perforated plastic block is placed in it. The holes in the block allow the bee to reach the syrup with her proboscis just as she would take nectar from a clover flower. Equipment attached to the artificial flower automatically records on graph paper the quantity of syrup gathered by the bees. The formula can be varied to determine the bees' food preferences.

Such information will be useful in solving pollination problems of some plants, including forage and fruit crops, in determining the best places to locate beehives for both honey production and pollination, and in finding out how to protect bees from insecticides.

Boren To Kansas

Dr. R. L. Parker, head of the beekeeping department at Kansas State College, is to have working with him Roger B. Boren who has his masters degree from Mississippi State College and has done considerable work on control measures for Nosema disease. His familiarity with disease control will also be of great help in his present position.

Arthritis and Rheumatism

Last month on page 403 is a short item from Dr. Joseph Broadman asking for reports from beekeepers with experience with the effect of bee stings on arthritis and rheumatism. How many continue to suffer from these diseases in spite of repeated stings over a period of years? Did repeated stinging cure all such sufferers or only a portion of them?

You can help in this survey by contacting Dr. Joseph Broadman, 55 Central Park West, New York 23, N.Y. In each case record your age, how long you have had arthritis and rheumatism, and if you had either at the time you became a beekeeper, did you then have the disease in chronic form?

Dr. Broadman is doing work in arthritis and rheumatism, almost entirely with bee venom.

History of Manitoba Beekeeping

A. V. Mitchener, Professor Emeritus in Entomology at the University of Manitoba in Winnipeg is the right person to appear as writer of a 12 page history of that province's beekeeping, since he has had an active part in Manitoba beekeeping for a long time.

The pamphlet traces the history of the beekeepers association, the succession of Provincial Apiarists, the university, Federal Apiarists, beekeeping publications, improvement in bees, and in apiary equipment, as well as changed management through the years. Records for honey production are given and marketing and processing of honey, as well as a paragraph on bee diseases and pests.

We assume that copies of this publication No. 290 may be secured by addressing the Minister of Agriculture of Manitoba at Winnipeg.

Roger Morse To Cornell

Roger Morse, a former student under E. J. Dyce of Department of Entomology at Ithaca, N. Y., has just recently become assistant apiculturist to Dr. Dyce at that institution.

He received his Master of Science at that institution in 1953 and was with the Florida State Plant Board since that date, helping with the beekeeping work. He should be a distinct addition to Dr. Dyce's staff.

The Isolation of a Bacteriophage from Bacillus Larvae

T. A. Gochnauer (Univ. of Minnesota, St. Paul). *Bee World*— *36*, 101-3 (1955).—The phage from a Georgia strain of American foulbrood had activity for strains of *B. larvae* from Pennsylvania, Ohio, and Germany but not for those from 9 other states of the U.S. The possibility of separating *B. larvae* strains on the basis of phage sensitivity is suggested.

Digest by F. B. Wells
Pennsylvania

Crouse Apiary Twelve Years In One Spot

Commenting on the picture for the Sideliner department in Sept., A. H. Crouse writes: "I think this picture was taken in June, 1945 and the yard today is just about the same. I would hardly dare estimate the tons and tons of the finest honey that have come from this one location in the almost twenty years since I began with about four colonies—and the years have piled up on me too; almost to the sixty mark. It has been a great pleasure to operate bees and sell honey. Many of our first customers still buy more each year."

A. H. Crouse,
Salida, Colorado

Ladino Seed Less, Dutch White More

Preliminary reports of the Department of Agriculture indicate that there will be a third less Ladino seed gathered this year than last. With Dutch White, it is just the opposite; there will be a fifth more. Sharp increases in Idaho and Oregon account for more white seed, while less acreage generally was put into Ladino.

MEETINGS HERE and THERE

SEVENTY-NINTH ANNUAL CONVENTION
WISCONSIN STATE BEEKEEPERS ASSOCIATION
First Lutheran Church — Beaver Dam — Corner Center & Mackie St.
November 6 & 7 — Headquarters—Hotel Rogers

WEDNESDAY, NOVEMBER 6—

9:00 A.M.	Registration
9:45 A.M.	Address of Welcome
10:00 A.M.	President's Message, Appointment of Committees, Crop Report
10:45 A.M.	John F. Long, Wisconsin Chief Bee & Honey Division Inspection Report and Observations.
11:30 A.M.	S. S. Mathisen, Milw. Co. Agent—Supt. Farm Crops, State Fair. "Fair Displays."
Noon	
1:30 P.M.	Alan Root, Gen. Mgr. A. I. Root Co., "The Hobbyist Beekeeper."
2:15 P.M.	Francis Haugh, Wis. State Marketing Specialist—"Dept. Report."
3:00 P.M.	C. D. Floyd, Supervisor, Minn. Bee Inspection and Chairman American Beekeeping Federation Markting Committee—"Committee Activities in 1957."
3:45 P.M.	Dr. C. L. Farrar, Apriculturist in Charge, North Central States Bee Culture Laboratory—"Mechanical Aids for Beekeepers."
4:30 P.M.	Recess
6:30 P.M.	Board of Managers

THURSDAY, November 7—

9:30 A.M.	Allan Vosburg, "Beekeeping Evangelism."
10:00 A.M.	Reverend Urban DeCleene, "Wintering Bees."
10:30 A.M.	Dr. T. A. Gochnauer, Research Associate, U. of Minn.—"The Terramycin Goblins."
11:30 A.M.	Robert Banker, Sec.-Treas. Am. Beekeeping Federation. "What the Federations Means to the Bee and Honey Industry."
12:00 Noon	
1:30 P.M.	Henry Rahmlow, Secretary Wis. Horticulture Society, "100 Years of Wisconsin Beekeeping and the State Bee Associations."
2:15 P.M.	Art. W. Kehl, Dadant Branch Manager, "Program Observations."
2:45 P.M.	Introduction of Honey Queen Candidates.
3:15 P.M.	Business Meeting, Report of Resolutions, Nominations, Auditing and State Fair Committees. Election of Officers.
6:30 P.M.	Banquet, Alan I. Root, Master of Ceremonies—Coronation of Honey Queen. Introduction of Beekeepers Song. Warden Burke of State Prison, short talk. D. N. McDowell, Director Wisconsin Dept. of Agriculture, Guest Speaker.

There will be a HONEY and BEE SUPPLIES EXHIBIT with Emerson Grebel, Sup't.

Eastern Missouri, Clayton, November 5

The Eastern Missouri Association will again meet at 7:30 P.M. at the courthouse in Clayton, November 5th. There will be an election of officers; a period of fellowship; and refreshments.

Arrena S. Gerlach, Secretary

Alberta Convention, Edmonton, Nov. 7-8

The Alberta Association convention will be held in the Airlines Hotel, Edmonton, on November 7 and 8.

Edmonton will be host to the Canadian Beekeepers' Council, and the Provincial Apiarists Association meeting this year. These meetings will be held immediately prior to the Alberta Beekeepers' Convention.

With members of Council and Provincial Apiarists present this year's convention will be even better than other years; if that is possible.

J. W. Edmunds
Supervisor of Apiculture

San Antonio, Texas, Association, Nov. 7th

The fall meeting of the *San Antonio Association* will take place at 8 P.M., November 7th (Thursday evening), in the office of the A. I. Root Company at 537 South Flores Street, San Antonio, Texas. A new beekeeping movie will be shown. Refreshments will be served. Everyone is invited.

Midwestern, Kansas City, Nov. 10th

The Midwestern Association will meet at the I.O.O.F. Hall, 812 Westport Road, Kansas City, Missouri at 2:30 P.M., Sunday, November 10th. Among the items on the agenda will be a report from the nominating committee, nominating officers for the ensuing year and a general discussion of beekeeping with a question and answer period to follow. Refreshments will be served by the Ladies Auxiliary. Everyone welcome.

J. F. Maher, Secretary

Texas State, College Station, Nov. 11-12

No more information than place and date.

Nebraska Annual, Lincoln, Nov. 14th and 15th

Lincoln, Nebraska College of Agriculture. Thursday Nov. 14th at the Entomology Room, Friday, November 15th at the Poultry Lecture Room. Beginners' day, Thursday, Nov. 14th.

9:30 A.M.—Registration
10:00 A.M.—General meeting, practical demonstrations.

1. Assembling new equipment
2. Package bee demonstration
3. Feeding bees.

General discussion. Question and answer period.
Drawing for prizes.
Friday, Nov. 15th. Poultry Lecture Room.
9:30 A.M.—Registration
10:00—Invocation
Reports of committees
Talk by Mrs. Harriet Grace of the American Honey Institute.
11:45 A.M.—Lunch at College Cafeteria
1.:00 P.M.—Speaker, James I. Hambleton, Research Center, Beltsville, Maryland
2:00 P.M.—Business meeting.
QUESTION OF INTEREST TO ALL BEEKEEPERS.
Should Nebraska have a "Bee yard location" amendment to the present laws?
6:30 P.M.—Banquet
Speaker and presentation of Honey Queens.

Mrs. DeEtta Bellin
Secretary

Utah State Annual, Salt Lake City, Nov. 29th and 30th

The annual meeting of the Utah State Association will be at the Hotel Temple Square in Salt Lake City, on Friday afternoon and Saturday, November 29th and 30th. All beekeepers in the area are invited to attend. An excellent program is being planned, centered around that well-known beekeeping expert, John Holzberlien of Meeker, Colorado. Items of interest are planned for both the commercial beekeeper and the sideliner. The banquet will be at the hotel on Friday night when the several county honey queens will be presented.

J. E. Wright
President

Westchester County (New York) New Rochelle, Nov. 17

The Westchester County Association will hold its next meeting at the Odd Fellows Hall, 20 Lockwood Ave., New Rochelle, N. Y., on Sunday, November 17, at 2:30 P.M.

At this meeting, we will have our "Annual Honey Show." Each member may have an entry in the following classes: 1. Light, amber and dark extracted honey in one lb. jars. 2. Chunk and comb honey. 3. Rendered beeswax in any shape or form.

Ribbons will be awarded for first, second and third prizes in each class, and special prizes for honorable mentions.

Let's make this meeting a good turnout. Refreshments will be served by the Queen Bees.

Mrs. Alfred Roth, Pub.

California State Convention, Stockton, Dec. 3-4-5

The California 1957 State Convention will be held Dec. 3-4-5 in Stockton with headquarters at the Stockton Hotel.

C. A. Johnson
President

Middlesex County (Mass.) Waltham Field Station, Nov. 30

The next meeting of the MIDDLESEX COUNTY ASSOCIATION (Mass.) is scheduled for Saturday, November 30, at 6:30 P.M. at the Waltham Field Station. At this meeting we will resume our practice of having a pot-luck supper before the business meeting.

Our fall season got off to a wonderful start with our banquet held on Saturday, October 26. A vote of thanks was given to Chairman "Dick" Corrigan for his work in making arrangements for this meeting.

Member A. G. Andree of Dover, Mass., was lucky winner of the 1957 Club Hive. We wish him lots of luck with this hive.

L. C. Proctor
Secretary

Wyoming Annual, Worland, Dec. 4-5

The Wyoming State Annual will be in Worland again on Dec. 4th and 5th just before the Montana meeting so both can use the same speakers. On the program will be a research expert and a good speaker from outside the state, in addition to our own state men. A round table discussion is being planned and we need a good man on that. We'd like to hear something about the use of excluders.

Wyoming Bee Lines
Editor, George Krause, Jr.

Washington, Idaho, and Oregon — Tri-State, Pendleton, Oregon, Dec. 5-6-7

On December 5, 6, and 7 the state beekeeping associations of Washington, Idaho, and Oregon will hold a Tri-State meeting in Pendleton, Oregon. By holding the joint meeting it is anticipated that the associations will secure a group of outstanding personnel in the field of bee culture for the program. The membership of each association will be informed of the exact meeting place and of the program in the very near future. Inquiries on this meeting should be addressed to Mr. Oliver Petty, Route 4, Box 303P, Albany, Oregon.

W. P. Stephen
Assistant Entomologist
Oregon State College
Corvallis

Montana State Annual, Billings, Dec. 6-7

The annual meeting of the Montana State Association will be held in the Northern Hotel, Billings, Dec. 6-7. Meeting will convene December 6th at 9 A.M., Banquet at 7 P.M. Speakers Robert Dadant, Hamilton, Illinois; E. E. Maloy, Sioux City, Iowa; and Harry J. Rodenberg, Jr., Wolf Point, Montana, of the executive board of the American Beekeeping Federation. Many important questions must be decided at this meeting about Association plans.

Mrs. O. R. Burdett
Secretary

Cook-DuPage (Illinois) Garfield Park, Nov. 16

The Cook-DuPage Association will hold their meeting Saturday evening, November 16, at the Garfield Park Gold Dome Building, 100 North Central Avenue, Chicago, Illinois.

Mr. H. C. Achtenhagen, (A. C. Honey Co.), Western Springs, Illinois, will have as his topic "Rendering Beeswax." There will also be an election of officers for the Cook-DuPage Association. Following this will be a pot luck snack.

Anyone interested in bees or beekeeping is cordially invited to attend.

For further information contact:
Mrs. Grace E. Sedlak
Rt. No. 2, Box 461
Oak Lawn, Illinois

Central Jersey, Freehold, Nov. 8

The November 8th meeting of the Central Jersey Association will be at 7:30 p.m. at the office of M. A. Clark, 20 Court St., Freehold. After an election of officers for the coming year, Professor Robert Filmer of Rutgers University will make an interesting talk. Also a film, "When Bee Meets Bee," is to be shown at the end of the meeting. Visitors welcome.

Forrest Campbell
Sec. Treas.

Federation Convention, Neil House, Columbus, Ohio, Jan. 27-31

The convention theme is to be "Industry Wide Cooperation." Then other topics that will receive prominent attention will be the Check Off Plan, Advancements in Research on Royal Jelly, Marketing and Promotion under thhe direction of C. D. Floyd, Research under the direction of Clarence Benson, National Packers and Dealers Association meetings, 500 Club meeting. We are also hoping to have some of our friends from Canada give us some of their methods on honey processing and packing. We will also have a place of interest for the hobbyist group and will hear from the American Honey Institute, and an interesting program for the Ladies Auxiliary. Then, of course, one of the highlights of all our conventions is the banquet that will be held Friday evening, January 31. Now this is just a brief suggestive outline and many other subjects will be considered.

L. R. Budge, Chairman
Program Committee
Malad, Idaho

National Honey Show, Florida State Fair, Tampa, Feb. 4-8

The National Honey Show, sponsored by the American Beekeeping Federation, will be put on by the Florida State Beekeepers Association at the Florida State Fair at Tampa, February 4 to 8th, 1958. This show will offer a fine chance for beekeepers to help their own cause by displaying their product before people from all over the country. No other fair has such a large percentage of out-of-state attendance as does the Florida State Fair. No matter where you live, people from your area will be there, and will be interested in seeing how "honey from home" compares with that on display. The Fair is providing space, premiums, and attendance, and it is up to you to provide the honey.

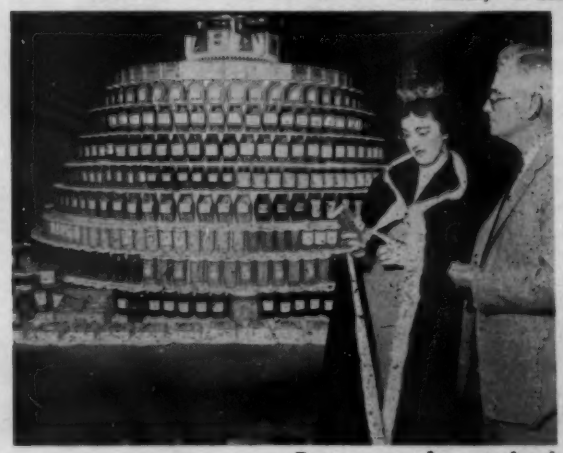
Lists of premiums and rules of the Show are available from Fred Oren, Superintendent, Honey Dep't. Florida State Fair, Tampa, Fla., or American Beekeeping Federation, Cannon Falls, Minnesota.

The rules are essentially the same as other years, with the exception that entries will not be returned unless requested by the exhibitor. Those not returned will be sold to the best advantage and money obtained turned over to a worthy beekeeping cause.

Millard Coggshall
Minneola, Florida

Michigan Beauties

Dirk C. Bloementhal, Holland, Michigan, clicked the shutter for this fine picture of Judy Hrushka, on the left, and Jackque Chmielewski, of Boyne Falls. Just to show that there was no "scarcity" of beauty in picking a Honey Queen.



Pennsylvania's Honey Queens

Pennsylvania's honey queen, Patty O. Werts of Greensburg, looks over a honey exhibit during the annual meeting of the Eastern Apicultural Society August 23-24 at the Pennsylvania State University. With Miss Werts is A. R. Dean of Pittsburgh, retiring President of the Society. The exhibit was prepared by W. Ralph Gamber of Lancaster, Pa., and shows various types and flavors of honey. (Pictures and notes by George A. Van Horn, Pennsylvania State University.)

Pennsylvania's future and current honey queens talk with Harry A. Merrill of Muncy, Pa., President of the Pennsylvania State Beekeepers' Association, during the third annual meeting of the Eastern Apicultural Society August 24 at Pennsylvania State University. Center is Elizabeth Sweigart of Terre Hill, Pa., 1958 honey queen, who was crowned by reigning queen Patty O. Werts, right, of Greensburg, Pa. The 1958 queen assumes her role in January. Mr. Merrill was elected to the board of directors of the Eastern Apicultural Society.

Some Further Observations On The Nature of 'Queen Substance'

C. G. Butler (Rothamsted Exp. Sta., Harpenden, Engl.) *Proc. Roy. Ent. Soc. London A 31* 12-6 (1956); *Bee World 38*, 189-90 (1957).—The object of this work was to determine whether 'queen substance' is passed from bee to bee in regurgitated food. Bees having recently licked a queen were added daily to queenless bees having an abundance of food. After 13 days, dissection showed a highly significant ($P<0.001$) difference in the degree of development of their ovaries compared with those of control bees. A mixt. of the honey stomach, esophagus, and mouth parts of workers which had recently licked a queen, when fed to queenless but well fed bees, also produced highly significant ($P<0.001$) difference in ovary development over that in control bees. Apparently the queen substance is licked from the queen's body by workers and subsequently shared via regurgitated food among the rest of the colony. It is suggested that queen substance may not act directly on the metabolism of the bees which share it, but may function instead as a releasing agent.

Digest by
F. B. Wells

Changes in Organs of Honeybee

M. H. Haydak has a very comprehensive article in the August "Bee World" discussing the changes in appearance in internal organs of the honey bee with age. His conclusions, based on careful research, including his own work, is that such changes do occur with age. The poison system shows the greatest change, while in the drones the post cerebral salivary glands and the testes are most affected. Malpighian tubules and paracardial cells in both queen and workers show considerable change with age. A page of references accompanies the 10 page article.

Alsike and Clover Seed Forecast

Preliminary Agricultural Marketing service figures indicate the alsike clover seed production will slightly exceed that of a year previous, due to larger acreages in Idaho and Minnesota.

Sweet clover seed, on the other hand, is one-fourth below average production. While it is slightly above last year's very small production, it is otherwise the smallest since 1948. Imports were also the smallest in 9 years.

Carniolan and Caucasian QUEENS

1957 nearing close, I desire to thank my customers for their patronage and patience in filling their orders during the wettest season on record according to weather bureau report. Increasing output again to try to meet the increased demand for Carniolan and Caucasian Queens. They are the answer to gentleness and production. Booking orders for (queens only) for early March 1958.

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AMERICAN BEE JOURNAL, Hamilton, Illinois

Editorial

A New Approach to Farm Legislation

Of interest to the honey industry, is a move to form a new kind of farm bloc composed of different commodity groups. It is well known that the general farm organizations such as the Farm Bureau, the Farmers Union and the Grange are considerably apart in their thinking about the farm program. The Farm Bureau favors flexible price support; the Farmers Union is for rigid supports, and the Grange has a domestic parity two-price plan that does not fit into either program.

The commodity groups figured, that since the general farm organizations could not get together, they would hold a series of conferences to see if they had mutual interests, and to see if they could arrive at a satisfactory farm program they could present to Congress. They argued that the commodity groups understood their individual commodities better than anyone else.

Thus, there has been formed the Organization of the National Conference of Farm Commodity Groups. It is hailed as a "grass roots" movement among farmers throughout the country to organize in the spirit of "one for all and all for one," in an effort to obtain more equitable treatment for farmers and a fairer share for farmers of the national economy.

At the last meeting of the Conference in Washington September 24 to 26, six committees were established to work on legislation to be presented in the next session of Congress for dealing with various phases of the overall agricultural problem. Committee No. 3 was assigned to study legislation to be proposed for commodities such as tung, naval stores, tobacco, potatoes, sugar, HONEY, peanuts, and fruits and vegetables. The Chairman of this Committee has written to Robert Banker, Secretary-Treasurer of The American Beekeeping Federation, asking him to contact producers and others in the honey industry relative to organizing a group to work out the kind of program they feel would best serve the honey industry. Mr. Banker presently is doing this. These proposals are asked to be ready by November 10, 1957, so time is extremely short for this. It is then planned that Committee No. 3 will take under consideration the proposals made by each commodity group and determine what can be reported to the commodity group conference by December 11, 1957.

It is obvious that this responsibility falls to the organization that represents producers—The American Beekeeping Federation. It is hoped that the Executive Committee of the Federation will take action for the industry and submit a sound and conclusive proposal. For there seems to be no question at this time that the next session of Congress will be confronted with new farm legislation, and the honey industry should be included along with other farm commodity groups.

It cannot be denied that the honey stabilization programs of the government have been and are highly beneficial to the beekeeping industry, while costing the government very little. Government officials have referred to the honey price support program as the ideal support program. Price support brought to the honey industry a stabilized market for the first time in the history of U. S. beekeeping. It should be continued as long as other commodities are favored with price support, and at a support level that will return an equitable income to producers.

If a surplus of honey develops, the export subsidy program should be reinstated, and marketing help should be available as it has been in the past. Other commodities likewise receive this government aid.

Committee No. 3 further recommended that legislation be enacted to increase research on production, marketing and consumption to bring about lower cost production, higher net profit to producers, and increased consumption of all agricultural products. This we endorse with special emphasis on research having to do with the products of the hive—honey, pollen and royal jelly. Such research holds the promise of great lasting benefit for the honey industry.

Washington State Publicizes Honey

The State Department of Agriculture at Olympia, Washington, in cooperation with the State and Central Washington Beekeepers' Associations and other private agencies and persons, undertook, in late 1956 a concerted effort to publicize honey and at the same time publicize beekeeping, since more bees were needed to do necessary pollination work in the State.

A pilot honey marketing development project was put on in designated locations to:

1) Demonstrate the use of honey in the Home Economic classes of high schools.

2) Use freely of recipe booklets.

3) Demonstrate to home makers by radio, TV shows, lectures and any other medium available.

4) Furnish clip-ons to restaurants and hotel dining rooms.

5) Conduct promotions in stores, papers and TV as well as displays etc.

Our space is too limited to give full explanation and results of the project. Needless to say, results were highly favorable, and three brochures have been issued and are now available from the State Department of Agriculture, addressed as above. The subjects of the booklets are:

1) M-M-M—Honey, Piloting Honey Marketing Development Project.

2) Honey Marketing Expansion Project—Honey Has Many Uses.

3) M-M-M—Honey Recipes.

California Honey Advisory Committee, American Honey Institute; in fact all available sources of information were incorporated in the project. Not only was the demand and use of honey increased but there was a quickening, generally in the keeping of bees and their need to the State, which had been primarily the two points, the originators and proponents of the project had set as their goal. A fine work which might very profitably be duplicated in every state.

—The Market Place—

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—Crop and Market—

by M. G. Dadant

The Crop

There has been little change in crop results from a month ago. The Northeast has profited by good fall flows, as have sections of the Central West. Government estimates give a crop 10% greater than 1956 while the writer's estimates were only 5% above a year ago. Most of the difference is due probably to the estimates comparatively on the California crop, though some states have profited by later flows to make the totals above last year. While the aster, which is still yielding on warm days in some sections, is all to the good, it will make little addition to surplus honey, though a big factor both in providing plenty of young bees for winter and a stock of good honey just around the cluster. This is especially true in the Northeast which, earlier, was drought stricken, and conditions poor.

Is Crop Moving

Again government estimates are that 90 million pounds was left in the hands of producers as of Sept. 15. While prices have been below last year, there has been a good movement of honey from the western states, particularly California, for export. A tendency also is to buy early, in Canada of U.S. honey, for while the Ontario crop was above a year ago, Quebec and the Western Provinces as well as British Columbia are much below 1956. Big buyers are inclined to be slow triggered in buying unless at lower prices than spring of 1956, but considerable sales have been made, particularly in the under average production areas, where packers wanted to assure themselves of enough honey to keep their distribution moving. Bulk comb in the southern sections has moved along quite well, and not much evidence of glutting of the market, though there has been some cutting of prices where there seemed to be no reason, except to "horn in" on an already established market.

Prices

On the whole prices have picked up from the low point of 45 days ago, but still there is no brisk demand. The foreign demand is still somewhat of a question mark owing to competition of the Americas to the south of us. Eastern sales have been on a basis of 14 cents or better with about 2 cents less for amber. Some shading in central areas, but still much honey held by the producer with the anticipation that the above price should be realized, as it has been on some sales. Short crop in Nebraska has kept prices animated there. On the coast, in our estimation, early sales have made a tendency towards stiffening of the prices, though amber honey is still too low. Later we look for California to have to go east not only to supply export orders but to get enough honey for Pacific Coast trade. Remember that Washington and Oregon as well as California are short this year. In addition we have a swelling population in those coastal states.

Where our price on honey will actually go by midwinter, will be determined not only by the export demand but by the effort put in on honey publicity and sales at home. And here we are not over optimistic. There does not seem to be the enthusiasm displayed as in the fall of 1955 with a big crop to dispose of.

Demand

Demand has naturally been no more than normal, since the harvesting of the crop came late, and summery weather has persisted up to the time this was written on Oct. 23.

Condition of bees

Bees are above normal in most instances, as are store totals. Some feeding needs to be done in New York, the Southeast, northern Minnesota and the Dakotas and Nebraska.

Insecticides have been a handicap in Nebraska, Arkansas, New Mexico and California. But, on the whole, late breeding and late flows though not surplus producing, have markedly improved conditions for winter.

Crimson Clover Seed Short

Preliminary government reports indicate that 41 percent of the crimson seed crop had left the hands of producers by mid-July. Prices have been about on a par with 1956 for a crop which was 12 million pounds in the 10 southern states in 1956 as against 10¼ million pounds this year. Estimates for the crop in the Northwest will be issued later.

Ants Taking Bee Bread

This spring, while extracting citrus honey in the Salt River Valley near Phoenix, Arizona, I observed a column of ants entering a stack of supers containing wet extracting combs. I became somewhat curious as to just what they were taking as they appeared to be carrying tiny bits of bee bread in their mandibles. I traced out the line of ants and came upon two stock piles of bee bread particles, each pile being at least a tablespoonful in size. Apparently this was not the nest storage area, but merely a stock-piling point enroute; because other ants were busily engaged in carrying particles from these piles in another direction, the nest evidently being some distance further on in that direction.

It struck me only as a matter of curiosity at the time, so I failed to collect any of the ants for identification; but since the incident, I have become a bit concerned. Those ants had only a period of less than two days time in which to locate and remove that amount of bee bread, and probably more, from those combs. The question, yet unanswered, in my mind is just how much bee bread such ants could remove from the combs of a colony of bees during the course of a season's time.

Len Foote
Assistant District Entomologist
Yuma County, Arizona

Effect of Rainfall on Honey Yield From Lime Tree

In Irish Beekeeper for August appears a translation by A.S.C. Deans, from the Russian by N. A. Bylanov. Tests on the Lime (basswood or Linn) tree indicate that the nectar secretion of this tree is determined largely by the moisture of the previous year during the months of July, August and September. When the rainfall in these months totals more than 140 mm. there is set up a degree of dampness which allows the root system of the trees to absorb mineral substances necessary for nectar secretion the following year.

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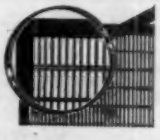

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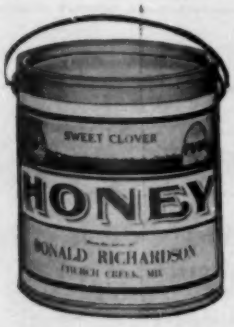

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